



ARBORICULTURAL IMPACT ASSESSMENT & METHOD STATEMENT

Pease House, Hitchin

July 2026
Revision B



Barton Hyett Associates
Arboricultural Consultants

Summary table		
Site Name:	Pease House, Hitchin	
Project reference:	7394A	
Site Address:	Priory Park, Old Charlton Road, Hitchin	
Nearest Postcode:	SG5 2DX	
Central Grid reference:	TL 18231 28742	
Local Planning Authority:	North Hertfordshire Council (NHC)	
Relevant planning policies:	Local Plan 2011 - 2031: SP9 - Design & sustainability; SP12 - Green infrastructure, landscape & biodiversity; NE2 - Landscape; NE4 - Biodiversity & geological sites.	
Statutory Controls:	Tree Preservation Order	Conservation Area
	None	Whole site is within Hitchin Conservation area.
Soil Type: (Source: BGS online soils map © NERC 2025)	Superficial/Drift	Bedrock
	Deep sand to sandy loam over Sand and gravel, and loam locally chalky.	Zig Zag Chalk Formation-Chalk
Proposed site plan:	MAM-HPL-050_PH_HTA-L_DR_0900 - Landscape General Arrangement Plan Garden / Flood defence wall - construction detail plan 226106-MNP-XX-XX-SK-S-4551 Rev P02.	
Report author:	Ian Monger <i>BSc (Hons), MSc, MICFor, MArborA</i>	
Date of issue:	10/07/2026 - Revision B - responses to NHC comments on flood protection wall at lime T34 (amended paragraphs numbered in blue text)	

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1. INTRODUCTION

- 1.1. Barton Hyett Associates Ltd has been instructed by Metric & Maker to survey trees located at Pease House, Priory Park, Hitchin ('the site') in accordance with the recommendations of British Standard 5837:2012 '*Trees in relation to design, demolition and construction - recommendations*'.
- 1.2. The scope of the instruction was to inspect trees relevant to a planning application at the site and provide written advice on how they inform feasibility and design options. The instruction also required an assessment of the potential impact (the Arboricultural Impact Assessment) of the proposed development on the site's arboricultural resource to be undertaken.
- 1.3. This Revision B report responds to the comments of the North Hertfordshire Council (NHC) Tree Officer in respect of the proposed surface water diversion wall within the RPA of lime T34. Further design meetings have been held to arrive at a wall design and working methods which reduce the potential impact on the tree to an acceptable level. For ease of review, additional/amended paragraphs in the report are numbered in blue.
- 1.4. The updated Arboricultural Method Statement (AMS) is included in **Section 4** of this report.

2. SITE DESCRIPTION

- 2.1. The wider site of Priory Park, located in the southwest of Hitchin, includes three self-contained office buildings (Radcliffe House, Pease House & Keynes House), with associated car parking set within the grounds, totalling nearly 30 acres, of a 14th-century former priory.
- 2.2. The approximate tree survey area is shown in Figure 1, although the definitive site red line boundary is shown on the separate Landscape General Arrangement Plan MAM-HPL-050_PH-HTA-L_DR_1100.
- 2.3. Pease House is a two- and three-storey building with overlying roof space. The office buildings are believed to have been originally constructed in three phases between 1987 (Radcliffe House), 1997 (Pease House), and 1998 (Keynes House).
- 2.4. The external areas are landscaped, with various shrub beds, retaining walls, car parking areas, and bin stores. Much of the tree planting is clearly contemporary with the construction of the buildings, although scattered mature trees predate this time and are associated with the former parkland of Hitchin Priory.
- 2.5. The site has access along a private road from Tilehouse Street to the northeast, and from Old Charlton Road to the northwest. A widened section of the River Hiz runs to the south. The site is at about 65m AOD, sloping gently down towards the river from the northwest, but with levels altered by the landscaping of the site. There are no public rights of way through the site.

3. TREE SURVEY FINDINGS

- 3.1. The survey recorded 64 arboricultural features in the wider survey area, although far fewer of these are within or adjacent to the site's red line boundary. They are summarised in terms of quality in accordance with the recommendations of BS 5837:2012 in Table 1 and shown in more detail on the Tree Survey and Constraints Plan (**Section 2**) and within the Tree Survey Schedule (**Section 5**).



Figure 1: Approximate tree survey area edged yellow.

Table 1: arboricultural features by type and quality category. (Those within site red line in brackets.)

	Total	A - High quality trees whose retention is most desirable.	B - Moderate quality trees whose retention is desirable.	C - Low quality trees which could be retained but should not significantly constrain the proposal.	U - Very poor quality trees that should be removed unless they have high conservation value.
Trees	50 (4)	9 (1)	35 (3)	6 (0)	-
Groups	7 (0)	2 (0)	3 (0)	2 (0)	-
Hedgerows	7 (3)	-	5 (2)	2 (1)	-
Total	64 (7)	11 (1)	34 (3)	10 (1)	0

- 3.2. Those arboricultural features located within the site red line boundary are summarised in brackets in Table 1.
- 3.3. Where it has not been possible to fully access the trees at the site, for example due to them being off-site or within dense vegetation, dimensions may have been estimated. Where this is the case, it has been highlighted within the tree survey schedules.
- 3.4. During the survey, a judgement has been made as to whether a tree is located within or outside the site boundary. Again, this is highlighted within the survey schedules. Where this is the case, the judgement has been made on the presence of site features such as boundary fences, ditches, and hedges, and it does not confirm definitive ownership or otherwise.
- 3.5. Occasionally, trees will not have been plotted within the topographical survey but may have been plotted during the tree survey. The location of these trees will not be as accurate as those plotted in a topographic survey and should therefore not be fully relied upon - especially where precise tree location is imperative for layout design. Where this is the case, the relevant trees are highlighted within the tree survey schedule and also on the tree survey plan.

4. KEY ARBORICULTURAL FEATURES

- 4.1. No veteran or ancient trees were identified in the survey, and there is no recorded ancient woodland affecting the site.
- 4.2. London plane T26 (A1) is located to the south of Pease House, and is the largest tree at the site, with a trunk diameter of 2.3m. It is somewhat hidden to the rear of the building, and a road, car park, and bin stores have been constructed within its Root Protection Area (RPA). It is also evident that lower branches to the north were reduced away from Pease House at the time of construction. It clearly predates the current buildings and landscaping.
- 4.3. Other trees which predate the current site are common lime T7 (B1), common lime T34 (B1), yew T35 (A1), and likely the group of three Caucasian wingnuts, G1 (A2).
- 4.4. Common lime T7 is located within the oval lawn to the southeast of Radcliffe House. It is a late-mature, pollarded tree with old pruning wounds and likely a column of decay in the trunk. The tree exhibits branch dieback and deadwood, with woodpecker activity on the decayed areas of the upper trunk. While the tree provides important decay habitats, the fungus *Kretzschmaria deusta* is evident on the prominent basal burrs. There is also audible decay and saprophytic fungal bodies on the lower trunk. The condition of the tree, in close proximity to people, reduces the quality to moderate, as it is presumed that its life expectancy is reduced and that further management pruning may be required in the future. As such, internal decay investigation should be carried out to assess the extent of decay and to estimate the safety factor of the tree, so that management recommendations can be made.
- 4.5. Lime T34 is located to the immediate west of Pease House. It has a decayed, historical wound on the trunk, from about 0.5m height and extending to 3.5m. However, the tree appears externally to be responding well to the decay feature, by adding reaction growth, and is otherwise a tree of good form and vitality. The crown has been previously reduced or high-pollarded, presumably in response to the decay defect and/or to temporarily provide more light to the office windows. Internal decay investigation should ideally be carried

out to assess the extent of decay in the lower trunk, and to estimate the safety factor of the tree, so that management recommendations can be made.

- 4.6. It is likely that some of the willow and other trees within the wooded area between the site and the River Hiz (Eg. Willow T21 - B1) and limes T30 - T32 (B/C), also predate the current site.
- 4.7. A number of trees which appear to be contemporary with the modern landscaping, including limes T6, T9, T10, T12, T13 (A1), and dawn redwoods G3 (A2) are of a younger age, but achieve the high quality category because of their long life expectancies and contribution to the landscape.

5. PROPOSED DEVELOPMENT

- 5.1. Pease House has prior approval (25/02689/PNMA) for conversion to 27 homes, which has not yet been implemented. The development proposal is a full application for landscaping of external areas, including new private gardens, new surface water diversion wall, a consolidated refuse store, a new cycle store, and surface dressing of the existing car park and existing roads.
- 5.2. The proposed site layout is shown on the Landscape General Arrangement Plan MAM-HPL-050_PH-HTA-L_DR_0900.

6. IMPACT ASSESSMENT

- 6.1. The impact assessment considers the effects of any tree loss required to implement the proposed development as well as any reasonably foreseeable, potentially damaging activities proposed in the vicinity of retained trees. This is undertaken with reference to BS 5837:2012 and considering the nature of the proposed development. Actual and potential impacts can include tree removal to facilitate the development, soil compaction in close proximity to trees, and direct impact damage to the canopy and roots of retained trees from construction activities. A summary of anticipated impacts resulting from the proposed development is provided below.

Trees to be removed

- 6.2. No trees will be removed. Only clipped yew hedges H2 and H7 (B2) will be removed to realign the existing footpath, which would have no public amenity impact and a negligible impact within the site.

Impacts on retained trees

- 6.3. A low brick wall to divert surface water is proposed to the west of Pease House, at lime T34 and following the boundaries of the private gardens. This, along with the new hard surfacing, will have a potential impact on the tree root system of the lime tree. In comments dated 17/06/2026, the NHC Tree Officer expressed concern that a standard wall foundation would likely have a significant impact on the tree's root system, and requires approval of further details of the foundation design prior to determination.
- 6.4. The key constraint in designing a flood defence wall is the need for it to function as an obstruction to surface water, and it is usually the foundation which provides this below-ground function.
- 6.5. British Standard 5837:2012 recognises that '*Intrusion into soil (other than for piling) within the RPA is generally not acceptable, and topsoil within it should be retained in situ*' (para 7.2.1), and that '*The use of traditional strip footings can result in extensive root loss and should be avoided. The insertion of specially*

engineered structures within RPAs may be justified if this enables the retention of a good quality tree that would otherwise be lost (usually categories A or B)' (para 7.5.1).

- 6.6. A series of design meetings have been held to consider the technical design options for the flood defence wall. The options considered, including the final chosen option with the least impact on the tree, as shown on the Garden / Flood defence wall - construction detail plan 226106-MNP-XX-XX-SK-S-4551 Rev P02, included in **Section 9**.
- 6.7. Option 1 comprises a standard concrete footing of 600mm wide and 300mm deep, requiring an excavation of 1.2m wide and 450mm deep. This option is clearly highly invasive and would have a severe impact on the root system of the lime tree. It has been discarded.
- 6.8. Options 2 and 3 consider the use of reduced concrete foundations, below-ground void formers to enable this, and helical screw piles to provide lateral support.
- 6.9. Option 2 reduces the foundation depth to 350mm, with the use of a below-ground steel beam and lintels, void former, and helical screw piles. Option 3 also reduces the concrete foundation depth by utilising a formed concrete beam lifted partially above the existing ground level, and supported by helical screw piles. While the helical screw piles can be installed with minimal disturbance and root system impact, the concrete foundations and void formers, and steel beam for Option 2, would likely require a significant degree of working space and ground disturbance/compaction during installation. While Option 3 is the least invasive of the two, both options are discarded because of the installation complexity and likely wider root system impact.
- 6.10. Option 4 utilises steel king posts set in concrete footings (max. 450mm diameter by 1.5m depth), at a minimum of 2.5m centres. Precast concrete panels are installed between the posts (finished, if necessary, for aesthetics per architect's specification), with a clay seal placed at the bottom of the panels to undisturbed soil on the face away from the lime tree. By utilising spaced post holes for the king posts, and a design which has a very limited incursion into the existing ground level, Option 4 will avoid the use of a strip foundation, and will allow clean installation using machinery (such as mechanical auger or a combination of airspade and Vac-Ex) which can be operated outside of the area of the tree's RPA to be protected. Option 4 therefore appears to be the least invasive, and for which installation can be most cleanly executed. It is the flood defence wall design now proposed.
- 6.11. It is of note that the soil at the location of the flood defence wall is recorded in the UK Soil Observatory database is deep sand to sandy loam. This soil has the lowest compactibility, and its presence indicates that the risk of tree root system damage and soil compaction from installation of the king posts, their footings, and the working space needed for the installation, will be much lower than would be the case for most other soils.
- 6.12. If carefully carried out with sufficient planning and arboricultural supervision, I consider that the Option 4 flood wall design proposed would have a low impact on the health and longevity of lime tree T34. Further details of installation working methods and tree protection measures are given below.
- 6.13. The consolidated refuse store is located at the edge of the RPA of London plane T26. The location of the store has been chosen to reduce the impact on T26 to the minimum possible, while also allowing for

Planning Control expectations around refuse travel time for residents. The structure will be a proprietary cycle shelter of steel frame with timber cladding, on a concrete slab, and is typically secured to the surface of the slab. A second, existing store to the northwest will be removed and returned to soft landscaping. The new consolidated store will enter the edge of the RPA of T26 by 17m², or only 2.4% of the RPA area. This is a very small incursion and would have no detrimental impact on the health or longevity of the London plane. In his comments, the NHC Tree Officer agrees that the incursion is minimal and is considered acceptable.

- 6.14. A new cycle store will be located to the east of Pease House and is located within the footprint of an existing smoking shelter. As such, the location has existing slabs and compacted ground. The removal of this and replacement with the new store would have a negligible impact on the vigorous root systems of willow T17, alders T18 and T19, and dawn redwoods G3. Willow T17 is a low pollard which has suffered a fracture of its eastern stem due to decay (now hung-up in an adjacent tree). It could be re-pollarded to rejuvenate its growth.
- 6.15. The realigned footpath and cycle parking between lime T34 and yew T35 (A1) would have a low impact on these trees. The cycle parking will be Sheffield stands, which is a lightweight structure and located at over 8.5m from the trunk of the yew.
- 6.16. The road and existing car park will be surface dressed using tar spray and chip. There will be no change to the existing underlaying sub-base or kerbing, and so no impact on nearby trees.
- 6.17. There would be no impact on the other trees, including off-site trees within the oval access route.
- 6.18. It is not yet known if or what new or upgraded drainage pipes or utility connections will be required at the site, although it is likely that existing drainage and utility locations will be suitable for the site's changed use, if implemented. The requirement for any drainage and utility relocation or upgrading will be discussed in detail at the pre-commencement meeting, to assess potential impacts on trees and other vegetation. Where a potential impact on a tree is identified, alternative routing to avoid the tree will be sought, or appropriate installation technique/working methods devised to reduce a potential impact to an acceptable level.

Conclusion

- 6.19. The proposal is feasible from an arboricultural perspective. Further technical design and consideration of options for construction of the flood defence wall at lime T34 have been undertaken. If carefully carried out with sufficient planning and arboricultural supervision, I consider that the Option 4 flood wall design proposed would have a low impact on the health and longevity of lime tree T34. Elsewhere, if carefully implemented according to the Arboricultural Method Statement (AMS) in **Section 4**, there would be no or only a low potential negative impact on the retained trees.

7. TREE PROTECTION MEASURES

- 7.1. There appears to be ample working space and existing hard surfacing at the site for construction and landscaping activity. The draft locations for additional barriers within the site and wider site are shown on the Tree Protection Plan in **Section 3**. These include barriers beyond the site red line, so that construction activity is excluded from nearby areas of open ground within tree RPAs.
- 7.2. The locations of barriers will need to be finalised in conjunction with the contractor(s), to take account of the construction method statement and all working space, storage, delivery and other access requirements. In certain locations, it may be that other site security fencing can provide an equal or better level of tree protection. Therefore, the construction site management measures will be reviewed at a later date to avoid duplication of barriers.
- 7.3. In relation to the flood defence wall at lime T34, section 11 of the Arboricultural Method Statement (AMS) below has been updated to reflect the proposed Option 4 flood defence wall installation. For ease of review, additional/amended paragraphs in the report are numbered in blue.
- 7.4. However, to ensure that the specific local site conditions, contractor access requirements, and appropriate tree protection measures are devised, the final installation details will need to be agreed at an on-site pre-commencement meeting between the installation contractor and appointed Project Arboriculturist. The NHC Tree Officer will be invited to the meeting, should they wish to attend. Otherwise, the meeting and its outcomes will be communicated to the NHC Tree Officer once it has taken place. We welcome the requirement for an on-site pre-commencement meeting to be a condition of planning consent.
- 7.5. It is also proposed that installation of the wall will be carried out with on-site arboricultural supervision and oversight. This will ensure that appropriate tree protection measures are in place, that installation is carried out with protection of the lime tree's root system as a priority, and that unforeseen circumstances are resolved in the most sensitive way. Again, a planning condition requiring on-site arboricultural supervision of the wall installation is welcomed.
- 7.6. In areas such as the car park existing hard surfacing and kerbs provide an adequate level of physical separation of working areas and trees.

8. CONCLUSIONS AND RECOMMENDATIONS

- 8.1. In conclusion, the arboricultural impacts of the development proposal on trees at the site are generally low. No trees will be removed, and the removal of clipped yew hedges H2 and H7 would have no public amenity impact and a negligible impact within the site.
- 8.2. The consolidated refuse store and the cycle store would have a low impact on nearby trees.
- 8.3. If carefully carried out with sufficient planning and arboricultural supervision, the Option 4 flood wall design proposed would have a low impact on the health and longevity of lime tree T34. However, to ensure that the installation working methods and tree protection measures are devised appropriately, the final installation details will need to be agreed at an on-site pre-commencement meeting between the installation contractor and appointed Project Arboriculturist. On-site arboricultural supervision of the installation will also ensure that working methods and protection measures are optimal for the health and longevity of the lime tree as work proceeds. These aspects could be conditioned by NHC to provide assurance over the installation in this sensitive area.
- 8.4. The updated Tree Protection Plan and AMS are provided in **Sections 3** and **4**. The AMS is a working document, so will be updated a later stage, once all working space, storage, delivery, and other access requirements of the contractor(s) are known.

Ian Monger

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Senior Arboriculturist



IMAGE 1: View of the access road and lawn to the front of Pease House (left), looking west.



IMAGE 2: The wider grounds to the east of the oval access road, looking southwest.



IMAGE 3: Lime T34, to the west of Pease House, looking northeast.



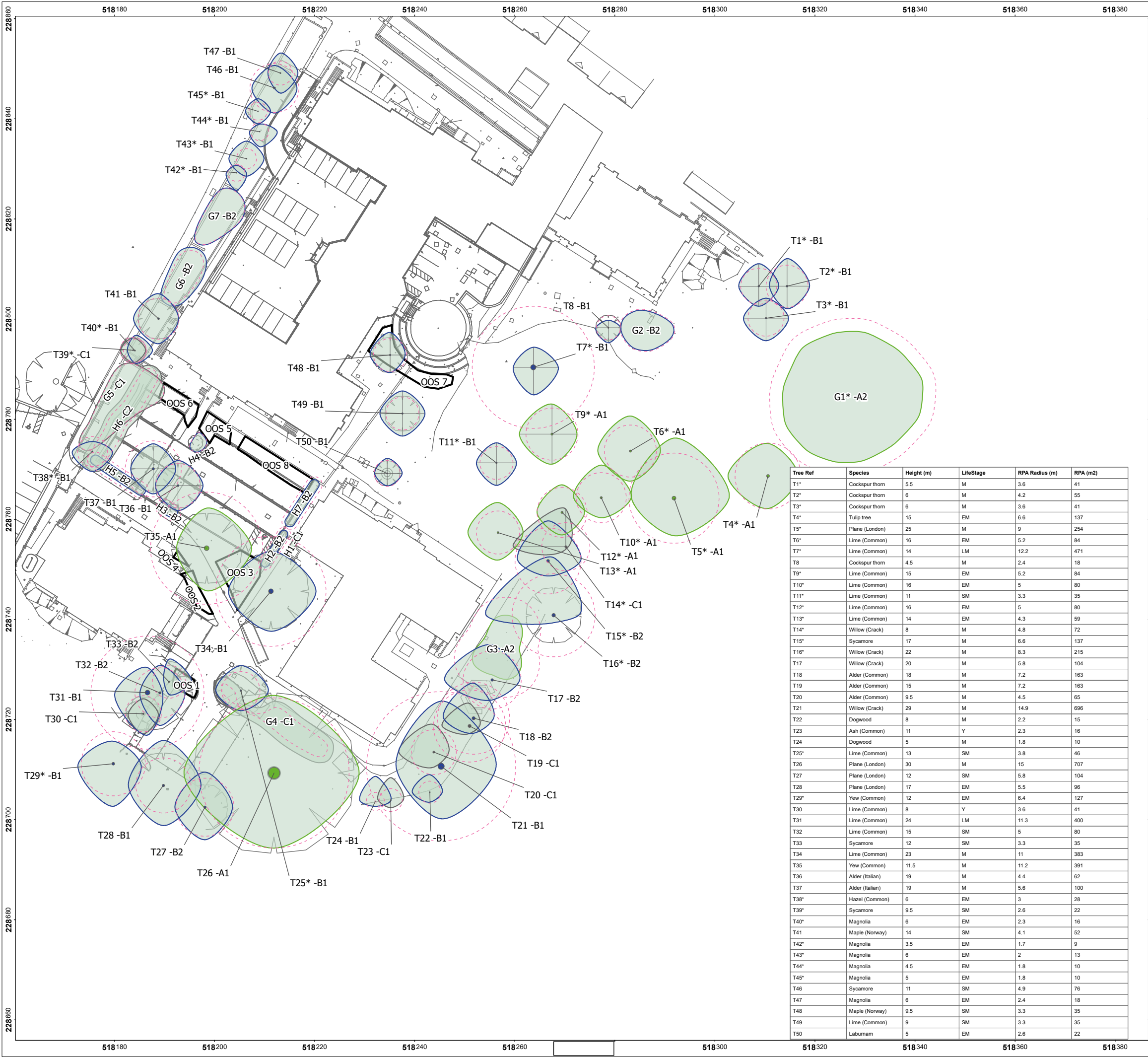
IMAGE 4: London place T26, looking south.



IMAGE 5: Detail of the lower trunk of London Plane T26, looking north.



IMAGE 6: The existing car park to the southwest of Pease House, looking south.



Tree Ref	Species	Height (m)	LifeStage	RPA Radius (m)	RPA (m2)
T1*	Cockspur thorn	5.5	M	3.6	41
T2*	Cockspur thorn	6	M	4.2	55
T3*	Cockspur thorn	6	M	3.6	41
T4*	Tulip tree	15	EM	6.6	137
T5*	Plane (London)	25	M	9	254
T6*	Lime (Common)	16	EM	5.2	84
T7*	Lime (Common)	14	LM	12.2	471
T8	Cockspur thorn	4.5	M	2.4	18
T9*	Lime (Common)	15	EM	5.2	84
T10*	Lime (Common)	16	EM	5	80
T11*	Lime (Common)	11	SM	3.3	35
T12*	Lime (Common)	16	EM	5	80
T13*	Lime (Common)	14	EM	4.3	59
T14*	Willow (Crack)	8	M	4.8	72
T15*	Sycamore	17	M	6.6	137
T16*	Willow (Crack)	22	M	8.3	215
T17	Willow (Crack)	20	M	5.8	104
T18	Alder (Common)	18	M	7.2	163
T19	Alder (Common)	15	M	7.2	163
T20	Alder (Common)	9.5	M	4.5	65
T21	Willow (Crack)	29	M	14.9	696
T22	Dogwood	8	M	2.2	15
T23	Ash (Common)	11	Y	2.3	16
T24	Dogwood	5	M	1.8	10
T25*	Lime (Common)	13	SM	3.8	46
T26	Plane (London)	30	M	15	707
T27	Plane (London)	12	SM	5.8	104
T28	Plane (London)	17	EM	5.5	96
T29*	Yew (Common)	12	EM	6.4	127
T30	Lime (Common)	8	Y	3.6	41
T31	Lime (Common)	24	LM	11.3	400
T32	Lime (Common)	15	SM	5	80
T33	Sycamore	12	SM	3.3	35
T34	Lime (Common)	23	M	11	383
T35	Yew (Common)	11.5	M	11.2	391
T36	Alder (Italian)	19	M	4.4	62
T37	Alder (Italian)	19	M	5.6	100
T38*	Hazel (Common)	6	EM	3	28
T39*	Sycamore	9.5	SM	2.6	22
T40*	Magnolia	6	EM	2.3	16
T41	Maple (Norway)	14	SM	4.1	52
T42*	Magnolia	3.5	EM	1.7	9
T43*	Magnolia	6	EM	2	13
T44*	Magnolia	4.5	EM	1.8	10
T45*	Magnolia	5	EM	1.8	10
T46	Sycamore	11	SM	4.9	76
T47	Magnolia	6	EM	2.4	18
T48	Maple (Norway)	9.5	SM	3.3	35
T49	Lime (Common)	9	SM	3.3	35
T50	Laburnum	5	EM	2.6	22

KEY

Category A Tree - High quality
(Retention highly desirable)

Category A - Hedgerow, Group, Woodland - High quality
(Retention highly desirable)

★ Tree/Group/Hedgerow not on topographical survey. Location given is an estimate

Group Ref	Species	Height Range (m)	LifeStage	RPA Radius (m)	RPA (m2)
G1*	Caucasian wingnut	18-20	M	13.6	578
G2	Cockspur thorn; dogwood; viburnum	3-5	EM	2.2	15
G3	Dawn redwood	18	M	7.1	157
G4	Viburnum rhytidophyllum; common ash	4.5-8	EM	1.8	10
G5	False acacia; Norway maple; elder	6-8	Y	2.9	26
G6	Sycamore; Magnolia grandiflora	4-10	SM	2.4	18
G7	Sycamore; Magnolia grandiflora	4-8	SM	2.9	26

Hedge Ref	Species	Avg. Height (m)	Life Stage	RPA Radius (m)	RPA (m2)
H1	Euonymus	1	EM	0.6	1
H2	Yew	3	SM	1.3	5
H3	Yew	3.5	SM	1.6	8
H4	Yew	2	SM	1.3	5
H5	Yew	3	SM	1.6	8
H6	Yew	5	EM	1.8	10
H7	Yew	3.5	SM	1.6	8

Label	Description
OOS 1	Shrubs
OOS 2	Shrubs
OOS 3	Shrubs
OOS 4	Shrubs
OOS 5	Shrubs
OOS 6	Shrubs
OOS 7	Shrubs
OOS 8	Shrubs with Virginia creeper

Tree Canopy Area		Tree Group Canopy Area		Hedgerow Canopy Area	
Category	Total SQM	Category	Total SQM	Category	Total SQM
A	1727.4	A	662.6	B	74.5
B	2468.2	B	206.2	C	121.2
C	234.6	C	279.2		

GRID NORTH

0 5 10 20 Meters

PROJECT TITLE
Pease House and Radcliffe House (7394)

DRAWING TITLE
Tree Survey and Constraints Plan

SCALE
Scale: 1:750 @ A3

DRAWING NUMBER
BHA_7394_01

DRAWN BY AT	APPROVED BY AH	REVISION -	SHEET -	DATE 11/03/2026
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COORDINATE SYSTEM / DATUM
British National Grid / Newlyn Datum (AOD)

CLIENT
Barton Hyett Associates

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DRAWING PRODUCED BY
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T29*	Yew (Common)	12.0	EM	6.4	127
T30	Lime (Common)	8.0	Y	3.6	41
T31	Lime (Common)	24.0	LM	11.3	400
T32	Lime (Common)	15.0	SM	5.0	80
T33	Sycamore	12.0	SM	3.3	35
T34	Lime (Common)	23.0	M	11.0	383
T35	Yew (Common)	11.5	M	11.2	391
T36	Alder (Italian)	19.0	M	4.4	62
T37	Alder (Italian)	19.0	M	5.6	100
T38*	Hazel (Common)	6.0	EM	3.0	28
T39*	Sycamore	9.5	SM	2.6	22
T40*	Magnolia	6.0	EM	2.3	16
T41	Maple (Norway)	14.0	SM	4.1	62
T42*	Magnolia	3.5	EM	1.7	9
T43*	Magnolia	6.0	EM	2.0	13
T44*	Magnolia	4.5	EM	1.8	10
T45*	Magnolia	5.0	EM	1.8	10
T46	Sycamore	11.0	SM	4.9	76
T47	Magnolia	6.0	EM	2.4	18
T48	Maple (Norway)	9.5	SM	3.3	35
T49	Lime (Common)	9.0	SM	3.3	35
T50	Laburnum	5.0	EM	2.6	22
G1*	Caucasian wingnut	19.20	M	13.6	-
G2	Cockspur thorn, dogwood, viburnum	3-5	EM	2.2	-
G3	Dawn redwood	18	M	7.1	-
G4	Viburnum rhytidophyllum; common ash	4.5-8	EM	1.8	-
G5	Falke acacia, Norway maple, elder	6-8	Y	2.9	-
G6	Sycamore, Magnolia grandiflora	4-10	SM	2.4	-
G7	Sycamore, Magnolia grandiflora	4-8	SM	2.9	-
H1	Eunymus	1.0	EM	0.6	-
H2	Yew	3.0	SM	1.3	-
H3	Yew	3.5	SM	1.6	-
H4	Yew	2.0	SM	1.3	-
H5	Yew	3.0	SM	1.6	-
H6	Yew	5.0	EM	1.8	-
H7	Yew	3.5	SM	1.6	-

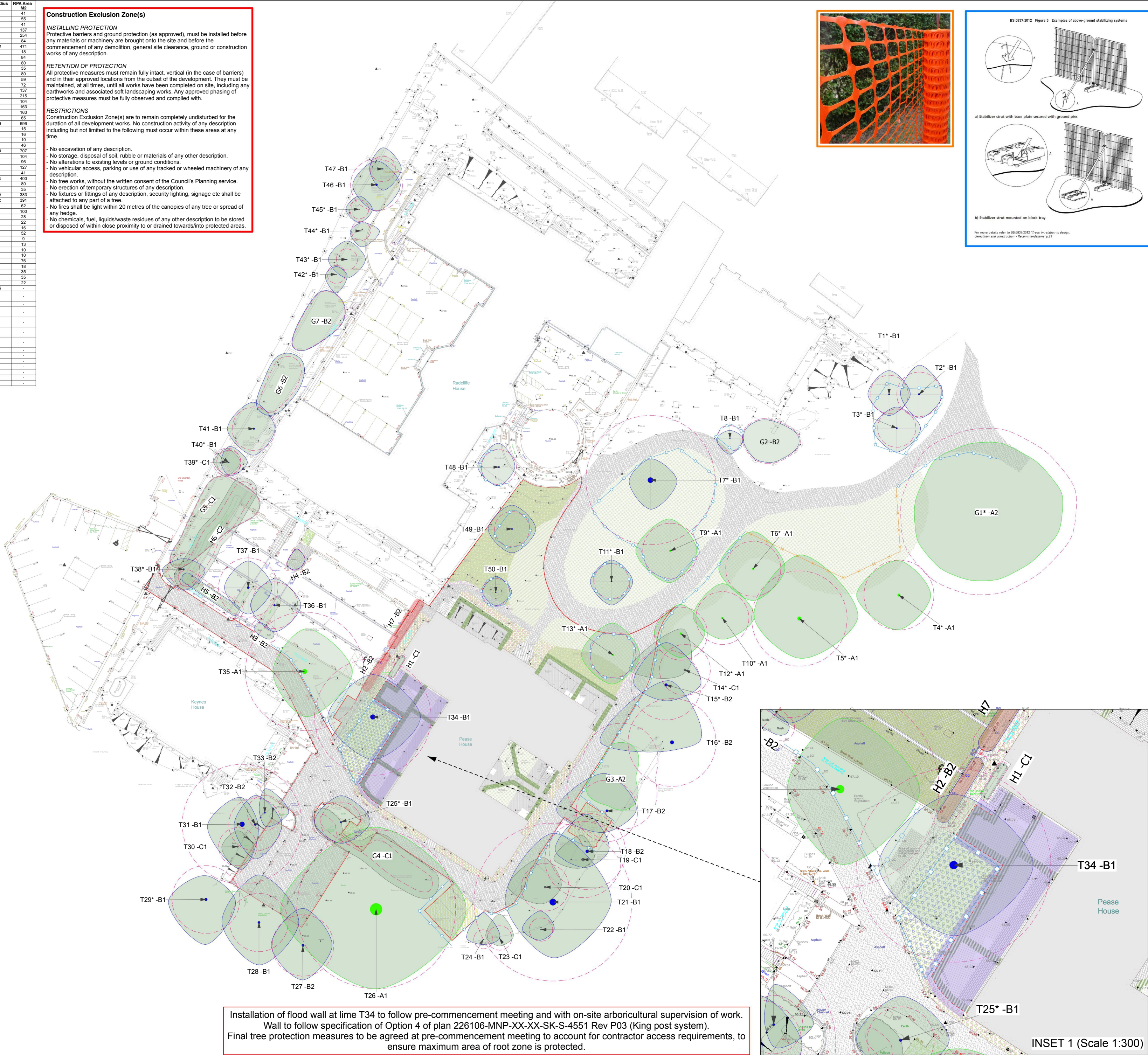
Construction Exclusion Zone(s)

INSTALLING PROTECTION
Protective barriers and ground protection (as approved), must be installed before any materials or machinery are brought onto the site and before the commencement of any demolition, general site clearance, ground or construction works of any description.

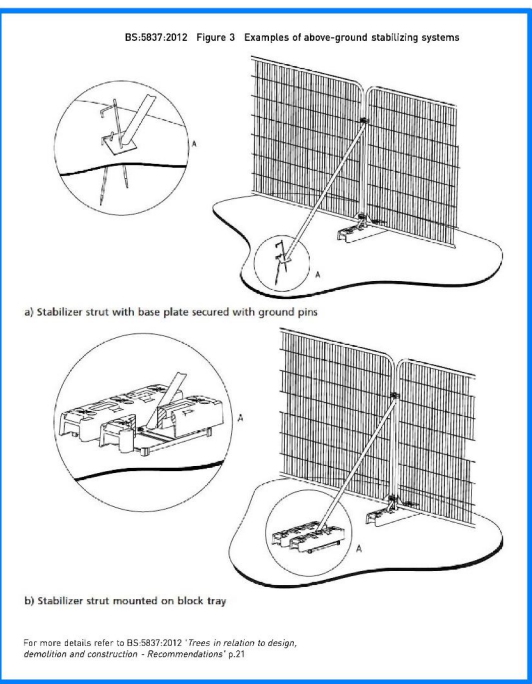
RETENTION OF PROTECTION
All protective measures must remain fully intact, vertical (in the case of barriers) and in their approved locations from the outset of the development. They must be maintained, at all times, until all works have been completed on site, including any earthworks and associated soft landscaping works. Any approved phasing of protective measures must be fully observed and complied with.

RESTRICTIONS
Construction Exclusion Zone(s) are to remain completely undisturbed for the duration of all development works. No construction activity of any description including but not limited to the following must occur within these areas at any time.

- No excavation of any description.
- No storage, disposal of soil, rubble or materials of any other description.
- No alterations to existing levels or ground conditions.
- No vehicular access, parking or use of any tracked or wheeled machinery of any description.
- No tree works, without the written consent of the Council's Planning service.
- No erection of temporary structures of any description.
- No fixtures or fittings of any description, security lighting, signage etc shall be attached to any part of a tree.
- No fires shall be light within 20 metres of the canopies of any tree or spread of any hedge.
- No chemicals, fuel, liquids/waste residues of any other description to be stored or disposed of within close proximity to or drained towards/into protected areas.



Installation of flood wall at lime T34 to follow pre-commencement meeting and with on-site arboricultural supervision of work.
Wall to follow specification of Option 4 of plan 226106-MNP-XX-XX-SK-S-4551 Rev P03 (King post system).
Final tree protection measures to be agreed at pre-commencement meeting to account for contractor access requirements, to ensure maximum area of root zone is protected.



KEY

- Category A Tree - High quality (Retention highly desirable)
- Category A - Hedgerow, Group, Woodland - High quality (Retention highly desirable)
- Category B Tree - Moderate quality (Retention desirable)
- Category B - Hedgerow, Group, Woodland - Moderate quality (Retention desirable)
- Category C Tree - Low quality (May be retained but should not constrain development)
- Category C - Hedgerow, Group, Woodland - Low quality (May be retained but should not constrain development)
- Category U Tree - Very low quality (Mostly unsuitable for retention)
- Category U - Hedgerow, Group, Woodland - Very low quality (Mostly unsuitable for retention)
- Root Protection Area (RPA) - Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and soil volume to maintain the tree's viability
- Shrub mass/offsite tree/out of scope (OOS)
- *Tx Estimated tree location where tree is not shown on topographical survey
- Tree / Hedgerow / Group to be removed or pruned

Protection Measures

- Tree Protection Barrier installed to specification of Figure 3 of BS5837:2012, or alternative site security fencing hoarding if this provides equal or better level of tree protection. Final barrier locations to be reviewed and agreed at the pre-commencement meeting, once all access, working methods and site compound details are known
- Secondary Tree Protection Barrier of hazard netting or similar attached to driven wooden posts or road pins to demarcate a Construction Exclusion Zone
- Area of potential Temporary Ground Protection for flood wall installation at time T34, to be discussed, devised and agreed at a pre-commencement meeting and comprising interlinked proprietary boards or cut-to-fit boards laid over 150mm well-rotted wood chip, separated from the soil with a permeable geotextile membrane. Temporary ground protection may be dynamic during installation, under the supervision of the appointed Project Arboriculturist.

CONSTRUCTION EXCLUSION ZONE - NO ENTRY

TREE PROTECTION FENCING

THIS FENCE MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED TREE PROTECTION PLANS AND ARBORICULTURAL METHOD STATEMENT FOR THIS DEVELOPMENT.

TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY A LAYING-OUT CONDITION WHICH ARE THE SUBJECTS OF A TREE PRESERVATION ORDER. CONSTRUCTION OF THIS FENCE IS A CONDITION OF THE TREE PRESERVATION ORDER. BREACH OF THIS FENCE IS A BREACH OF THE TREE PRESERVATION ORDER.

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Note: The original of this drawing was produced in colour – a monochrome copy should not be relied upon. This drawing should be interpreted with reference to the accompanying tree schedule and written advice

PROJECT TITLE
Pease House, Hitchin

DRAWING TITLE
Tree Retention/Removal & Protection Plan

SCALE
1:500 @ A2

DRAWING NUMBER
BHA_7394_02A

DRAWN BY
IM

APPROVED BY
RH

REVISION
B

SHEET
-

DATE
10/07/2026

LAYOUT USED
MAM-HPL-050_RH_HTA-L-DR_0900 - Landscape General Arrangement

CLIENT
Metric & Maker

COORDINATE SYSTEM / DATUM
British National Grid / Newlyn Datum (AOD)

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Ordnance Survey Copyright Licence number 100054267.

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PEASE HOUSE, HITCHIN

1. PURPOSE

- 1.1. The aim of this Arboricultural Method Statement (AMS) is to prevent and/or minimise the impacts of site operations on retained trees and hedges during development and landscaping at Pease House, Hitchin ('the site'). It gives step-by-step guidance and specifications for works which have the potential to result in loss of or damage to trees.
- 1.2. This AMS must be read with reference to the combined Tree Retention/Removal & Protection Plan in **Section 3** of this report.

2. KEY PERSONNEL AND INDIVIDUAL RESPONSIBILITIES

- 2.3. The Client shall hold overall responsibility for the project and shall appoint professionals and delegate responsibility in relation to the Scheme of Tree Protection as follows:
- 2.4. The Project Site Manager shall hold the responsibility to ensure that all key contractors and all other persons working on-site have a responsibility to be aware of trees and to abide by tree protection procedures.
- 2.5. The Project Arboriculturist (as appointed) shall be responsible for independently monitoring/supervising the effectiveness of tree protection at regular intervals and report all findings in writing back to the client, the project site manager and the local planning authority. He/she shall also be instructed to provide additional advice should unforeseen circumstances develop. He/she must hold a recognised qualification in arboriculture to NQF Level 4 or higher.
- 2.6. Other appointed individuals and their contact information shall be recorded as part of the on-site pre-commencement site meeting.

3. HOW THE AMS MUST BE USED

- 3.1. The AMS must be used as a reference source for site operatives in order to guide tree-related aspects of the construction process. A precautionary approach is required.
- 3.2. The AMS must be referred to by site managers during the construction operation itself. A copy of this document must, therefore, be kept available in the main Site Office for quick and easy reference.

4. WORK PHASES

- 4.1. In relation to the above site, it is anticipated that arboricultural working methods are likely to be quite straightforward. The following sequence of work should be followed:
 1. Pre-commencement site meeting, including detailed planning of the installation of the flood defence wall at lime T34 (with a separate meeting held for the latter purpose if required)
 2. Hedge H2 & H7 removal
 3. Erect temporary tree protection barriers
 4. Main building conversion phase
 5. Installation of new surface water diversion wall, with on-site arboricultural supervision
 6. Other external hard landscaping
 7. Soft landscaping, including phased removal of tree protection barriers for landscaping in each area
 8. Project completion.

5. CONSTRUCTION PLANNING

- 5.1. The Project Arboriculturist will remain on hand in an advisory role to answer any questions relating to tree protection that may arise during construction planning or during the build phases.
- 5.2. The approved AMS includes a pre-commencement meeting to discuss all aspects of the project which could impact retained trees, the tree protection measures, and the installation of the flood defence wall at lime tree T34. The installation of the flood defence wall will be undertaken with on-site arboricultural supervision, so it is essential that site meeting(s) and the on-site supervision are instructed and arranged in good time to ensure compliance with the planning permission.
- 5.3. In addition to this AMS, the following schemes and documents are of relevance to or may have an influence on this AMS:
 - Landscape Scheme
 - Construction Environmental Management Plan for Biodiversity (CEMP) (if produced)
 - Construction Method Statement or other construction site management document.
- 5.4. If required, this AMS can be modified with the approval of the Project Arboriculturist. Therefore, the Project Arboriculturist must be consulted if any conflict with the Construction Method Statement or other approved schemes that may affect retained trees is identified during the planning or construction stages. The Arboriculturist will be asked to review the Construction Method Statement once it is available.
- 5.5. The locations of the contractor compound, storage, parking and working space for plant and scaffolding will be discussed and agreed upon at the pre-commencement meeting and recorded on a plan. There is ample scope for these areas to be located outside of the root protection areas (RPAs) of retained trees, and priority will be given to these areas.
- 5.6. The site operations must be sequenced in accordance with the over-arching timetable of work stages set out within the AMS. Should any change to the sequence of operations be necessary, or if any other incidents occur, the Project Arboriculturist must be consulted. The Project Arboriculturist shall then evaluate any potential arboricultural impacts that could arise and specify additional tree protection/remediation measures as required. Confirmation that the proposed changes are acceptable within the context of relevant planning permission must be obtained in writing from the local planning authority prior to any new operations on site.
- 5.7. Where site operations have the potential to result in more substantial impacts on retained trees, an arboricultural watching brief shall be required.

6. SITE INDUCTION

- 6.1. Before commencing relevant works on site, all site operatives must be briefed by the Site Manager in relation to site procedures and rules that relate to retained trees as well as the content of the AMS.

7. ARBORICULTURAL MONITORING AND CONTINGENCY PLANS

- 7.1. The Project Arboriculturist will remain on hand in an advisory role and will intervene should a request be made.
- 7.2. Adequate physical protection of the retained trees at the site should be supported by an audible monitoring schedule for future compliance with this AMS. During the construction and landscaping phases, the Project Arboriculturist and Project Site Manager will hold a monthly online video meeting, combined with a review of site photographs. The meetings will confirm that tree protection measures are fit for purpose and that other site conditions are appropriate for tree protection.
- 7.3. After each meeting, the Project Arboriculturist will update the monitoring report, including any corrective actions. Any material deviation from the approved AMS details will require the written approval of North Hertfordshire Council (NHC), for which the Site Manager will seek the advice of his planning consultant before any action is taken or further related work is carried out on-site.
- 7.4. In the event of unforeseen incidents that may adversely affect or threaten the welfare or security of the trees, the Site Manager shall inform the Project Arboriculturist at the earliest opportunity and not more than one working day following the incident.
- 7.5. The Project Arboriculturist will visit the site to inspect and assess the circumstances and make appropriate recommendations. The Project Arboriculturist will inform NHC of such incidents, and recommendations will be submitted for approval by the Local Planning Authority, initially verbally and then in writing. The Project Arboriculturist will maintain a record of any emergency incidents and works.
- 7.6. Incidents which may merit such contingency plans include:
 - Accidental/unauthorised damage to the branches, roots or trunk of trees
 - The spillage of chemicals within or adjacent to a Root Protection Area
 - The discharge of toxins/waste within or adjacent to a Root Protection Area
 - The unscheduled breaching of a tree protective barrier or Construction Exclusion Zones.

8. PRE-COMMENCEMENT SITE MEETING

- 8.1. The purpose of the meeting is to enable all relevant parties within the development team to meet, to be aware of the requirements of the AMS, and to agree on a coordinated approach to the project.
- 8.2. It is essential that the installation of the flood defence wall, including timing, resourcing, access, tree protection measures, and working methods, is discussed and agreed in detail on site. Therefore, a separate site meeting may be necessary to ensure that the appropriate parties are present.
- 8.3. The meeting(s) shall be pre-arranged, and the NHC Tree Officer shall be given five working days written notice and invited to attend.
- 8.4. Required attendees:
 - Project Site Manager
 - Project Arboriculturist (as appointed)
 - Landscaping contractor
 - Flood defence wall installation contractor (at the relevant site meeting).

8.5. Matters to be addressed:

- Identification of persons present and exchange of contact information
 - Project schedule and communication channels
 - Familiarisation with all aspects of the AMS
 - Location of the site compound
 - Identification of trees/hedgerows to be removed and pruned, and timing of works
 - Phasing of work, including installation of perimeter fencing and any additional tree protection
 - Setting out temporary tree protection barriers
 - Timing, resourcing, tree protection measures and working methods for installation of the flood defence wall at lime T34, and agreement of on-site supervision during installation
 - Locations and installation method for new underground utilities.
- 8.6. The Project Arboriculturist shall provide written confirmation to NHC that the meeting has occurred and that specified matters have been addressed.

9. TREE AND HEDGE REMOVAL

- 9.1. No trees, other than as specified below, will be removed or pruned without the express written approval of the Project Arboriculturist and LPA Tree Officer.
- 9.2. The site is located within **Hitchin Conservation Area**. Subject to specific exceptions, it is an **offence in law** to carry out any works to a tree in a Conservation Area with a trunk diameter greater than 75mm diameter at 1.5 height without having first provided the LPA with 6 weeks written notification of intent to carry out the works.
- 9.3. All access requirements near to trees will be discussed at the pre-commencement meeting, so that any additional requirement for tree pruning can be notified to NHC within the required timeframe, if an alternative cannot be found.
- 9.4. The advice of the Project Arboriculturist must be sought if any unforeseen access issue relating to tree branches is identified, and no tree pruning action must be taken until approval has been obtained.
- 9.5. The following tree work is approved. To avoid the offence of disturbing a nesting bird, the advice of a suitably qualified ecologist must be sought before carrying out the work, and depending on the time of year, may need to be carried out under the direction of the ecologist:
 - **H2** yew hedge - fell and mechanically grind stumps.
 - **H7** yew hedge - fell and mechanically grind stumps.
- 9.6. All tree work will be carried out by a suitably qualified and experienced tree surgery contractor, and in accordance with British Standard BS3998: 2010 Tree work - recommendations.
- 9.7. All tree work operations must be carried out in line with the contractor's own site-specific risk assessment and method statement that shall be approved prior to commencement by the Site Manager.
- 9.8. All arisings shall be disposed of as instructed by the Project Site Manager. Ideally, the chippings should be stored on site to allow partial composting and later use as landscape mulch.

PEASE HOUSE, HITCHIN

10. ERECT TREE PROTECTION BARRIERS AND NOTICES AND TEMPORARY GROUND PROTECTION

- 10.1. The tree protection barriers are to be installed in locations as specified on the Tree Protection Plan (TPP) in **Section** , and as marked out and agreed upon at the pre-commencement meeting. The barriers will form the Construction Exclusion Zones (CEZs).
- 10.2. Note that the detailed and finalised tree protection measures at lime T34, for the installation of the flood defence wall, will be agreed at the pre-commencement meeting between the appointed Project Arboriculturist and installation contractor (and NHC Tree Officer if in attendance, or by other subsequent approval of the NHC Tree Officer via the Project Arboriculturist). Protection measures at lime T34 will include a combination of barriers, temporary ground protection, and tree trunk protection hoarding, as appropriate. The protective measures may be dynamic during installation under on-site arboricultural supervision to ensure the optimum area of ground is protected.
- 10.3. The Project Arboriculturist may specify additional protection barriers or temporary ground protection as a result of discussions at the pre-commencement meeting.
- 10.4. Where, in the opinion of the Project Arboriculturist, site security hoarding/fencing will be installed for the duration of groundworks and construction and offers an equal or better level of tree protection, it may negate the need for additional tree protection in certain locations. The Project Arboriculturist will record any adjustments agreed upon.
- 10.5. The final fencing locations should be marked for the fencing contractor by an engineer using GPS. A CAD .dwg file is available for this purpose on request.
- 10.6. The tree protection barriers must be installed in accordance with the default BS5837:2012 specification Figure 3 which is shown on the TPP. The supporting feet **must** be securely fixed to the ground and the uprights braced to prevent drift.
- 10.7. All-weather A3-sized notices (such as provided in **Section 8** below) shall be attached to the tree protection barriers at 10-metre intervals.
- 10.8. If a risk of run-off ground contamination beyond the protective measures is identified, a run-off containment system (e.g. Kraken contamination containment barriers or similar with impermeable membrane attached) must be affixed to the base of the fencing panels.
- 10.9. If scaffolding is required to straddle tree protection barriers then kickboards must be fitted to the platforms to prevent fading debris and additional temporary ground protection must be provided below.
- 10.10. Any temporary ground protection specified by the Project Arboriculturist will be of interlinked proprietary boards or cut-to-fit boards laid over 150mm well-rotted wood chip, separated from the soil with a permeable geotextile membrane. The boards can be secured in place if necessary using metal pins.
- 10.11. The Project Arboriculturist must approve the condition and positioning of the barriers, notices and any temporary ground protection prior to the commencement of further stages in the construction process.
- 10.12. The barriers and any temporary ground protection must not be moved, altered or allowed to drift during construction activity. The barriers and ground protection will be checked at the beginning and end of each

working day to ensure they remain fit for the purpose of excluding any site activity and protecting the ground. They will remain in situ until all construction work on site has been completed.

- 10.13. The CEZs formed by the barriers are to remain completely undisturbed for the duration of all development works. No construction activity of any description including but not limited to the following must occur within this area at any time:

- No excavation of any description.
- No storage or disposal of soil, rubble or materials of any other description.
- No alterations to existing levels or ground conditions.
- No use of any tracked or wheeled machinery of any description.
- No tree works, without the written consent of the Local Planning Authority's Development Management service.
- No erection of temporary structures of any description.
- No fixtures or fittings of any description, security lighting, signage etc shall be attached to any part of a tree.
- No fires shall be lit within 20 metres of the canopies of any tree or spread of any hedge.
- No chemicals, fuel, liquids/waste residues of any other description are to be stored or disposed of within close proximity to or drained towards/ into protection areas.

- 10.14. All works and excavations must be carried out outside of the CEZs. All restrictions and precautions specified in this AMS and in **Section 8** below must be adhered to. All further excavations for services must be located outside of CEZs (see below).

11. CONSTRUCTION OF FLOOD DEFENCE WALL AT LIME T34

- 11.1. The design of the new flood defence wall at lime T34 will follow **Option 4** on the separate Garden / Flood defence wall - construction detail plan 226106-MNP-XX-XX-SK-S-4551 Rev P02 (included in **Section 9** of this report). This utilises steel king posts set in concrete footings (max. 450mm diameter by 1.5m depth), at a minimum of 2.5m centres. Precast concrete panels are installed between the posts (finished, if necessary, for aesthetics per architect's specification), with a clay seal placed at the bottom of the panels to undisturbed soil on the face away from the lime tree.
- 11.2. The final locations of the king posts will be determined by further detailed design of the flood defence wall structure, and on-site ground investigations where necessary. The excavation of the king post footings will be carried out using means such as mechanical auger or a combination of airspade and Vac-Ex. The soil in the location of the wall is recorded as deep sand to sandy loam, although made ground is also likely to be encountered.
- 11.3. To ensure that the specific local site conditions, contractor access requirements, and appropriate tree protection measures are devised, the final installation details will be agreed at an on-site pre-commencement meeting between the installation contractor and the appointed Project Arboriculturist. Therefore, a separate site meeting may be necessary to ensure that the appropriate parties are present.

PEASE HOUSE, HITCHIN

- 11.4. The NHC Tree Officer shall be given five working days' written notice and invited to attend. Otherwise, the meeting and its outcomes will be communicated by the appointed Project Arboriculturist to the NHC Tree Officer once it has taken place.
- 11.5. The appointed Project Arboriculturist may specify additional tree protection measures where he considers them necessary for the localised and phased work and access requirements. This protection will be a combination of barriers, temporary ground protection, and tree trunk protection hoarding, as appropriate.
- 11.6. The appointed Project Arboriculturist will be instructed to be in attendance on site during the installation of the flood defence wall, to ensure that working methods and tree protection measures are appropriate. He will record work as it proceeds, with photographs, and details of any unforeseen circumstances and how they were resolved.
- 11.7. The protective measures may be dynamic during installation under on-site arboricultural supervision to ensure the optimum area of ground is protected.
- 11.8. On completion of the installation, the appointed Project Arboriculturist will prepare a supervision report for the NHC Tree Officer, with photographs detailing the progress and completion of the wall installation.

12. NEW OR UPGRADED DRAINAGE AND UTILITIES

- 12.1. Final locations for any new or upgraded drainage pipes or utility connections will be discussed in detail at the pre-commencement meeting, to assess potential impacts on trees and other vegetation.
- 12.2. The locations of these will be partly constrained by the requirements of the relevant service/distribution companies. Where a potential impact on a retained tree and its root system is identified, alternative routing to avoid the tree will be sought.
- 12.3. Only where this is not feasible, an alternative trenchless installation method may be considered appropriate by the Project Arboriculturist who will agree and supervise installation with the relevant installation contractor.
- 12.4. Installations will follow the precautions and working methods of the **Streetworks** (formerly NJUG) **Volume 4** - '*Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees*', available at: <https://streetworks.org.uk/resources/publications/>
- 12.5. The Project Arboriculturist will specify additional tree protection measures where he considers them necessary for installation activity near tree RPAs.

13. REMOVE TREE PROTECTION BARRIERS

- 13.1. The temporary protection barriers must not be removed without the prior approval of the Project Arboriculturist or Ecologist.
- 13.2. The Site Manager will ask the Project Arboriculturist to approve the removal of barriers. They will assess site conditions and confirm that it is an appropriate stage at which to remove them.

14. SOFT LANDSCAPING

- 14.1. The separate landscaping scheme has been approved and will be carried out in accordance with the approved specifications. The following is general guidance in relation to landscaping near trees.
- 14.2. General landscaping guidance:
 - 1. New tree planting should be carried out in accordance with the principles of 'BS8545: Trees: from nursery to independence in the landscape – recommendations.'
 - 2. All excavations within the RPA of retained trees must be carried out by hand. Where areas of concentrated pedestrian activity are required within RPAs, work shall be carried out on top of 25mm ply boards set on 100mm wood chips.
 - 3. Where posts are to be concreted into the ground within the RPA of retained trees, excavated post holes must be lined with a heavy-duty (damp-proof course-type) plastic membrane to prevent any concrete from damaging roots.
- 14.3. Tree establishment and health/condition monitoring:
 - 1. Following the completion of construction and landscaping works it will be necessary to continue monitoring to assess and evaluate the condition of both newly planted trees and trees that have been retained.
 - 2. Immediately following the completion of landscaping works, the Project Arboriculturist or other suitably qualified and experienced arboricultural/landscape specialist should inspect the condition of all newly planted trees to ensure that planting specifications have been properly adhered to. This will involve checks of tree size and form, staking, individual protection and weed control. Feedback will be provided to the Project Site Manager, along with clear specifications for remedial action as may be necessary.
 - 3. Subsequently, at annual intervals, the Project Arboriculturist or other suitably qualified and experienced arboricultural/landscape specialist should inspect all the trees on the site and make recommendations for remedial action as may be necessary. This will involve a visual assessment of the condition of retained trees, an assessment of the effectiveness of tree protection and weed control in relation to newly planted trees and identification of trees that require formative pruning to improve long-term structural form. Again, Feedback will be provided to the Project Site Manager, along with clear specifications for remedial action as may be necessary.



CONSTRUCTION EXCLUSION ZONE - NO ENTRY

TREE PROTECTION FENCING

THIS FENCE MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED TREE PROTECTION PLANS AND ARBORICULTURAL METHOD STATEMENT FOR THIS DEVELOPMENT.

TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A TREE PRESERVATION ORDER.
CONTRAVENTION CAN RESULT IN BREACH OF PLANNING CONDITIONS AND/OR CRIMINAL PROSECUTION.
(TOWN AND COUNTRY PLANNING ACT 1990)

FOR ALL ENQUIRIES REGARDING TREES AT THIS DEVELOPMENT
PLEASE CALL 01386 576161 OR EMAIL ENQUIRIES@BARTON-HYETT.CO.UK

 **Barton Hyett Associates**
Arboricultural Consultants

INDIVIDUAL TREES

Ref	Species	On/off site	Height (m)	No. of stems	Est diam?	Calc. / actual stem dia. (mm)	Crown radii (m) N-E-S-W	Av. low crown height (m)	1st branch ht (m)	1st branch dir.	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)	RPA m ²
T1*	Cockspur thorn	On	5.5	1	-	300	4.5-4.0-4.0-4.0	2.0	1.5	SE	M	No significant defects.	Good	Good	40+	B1	3.6	41
T2*	Cockspur thorn	On	6.0	1	-	350	5.5-4.5-4.5-3.5	2.0	1.5	S	M	No significant defects.	Good	Good	40+	B1	4.2	55
T3*	Cockspur thorn	On	6.0	1	-	300	4.0-4.5-4.5-4.5	2.0	1.5	S	M	No significant defects.	Good	Good	40+	B1	3.6	41
T4*	Tulip tree	On	15.0	1	-	550	6.5-6.0-6.5-8.0	2.5	2.5	N	EM	No significant defects. Good form.	Good	Good	40+	A1	6.6	137
T5*	Plane (London)	On	25.0	1	-	750	12.0-11.0-7.5-8.5	2.5	2.5	-	M	No significant defects. Good form.	Good	Good	40+	A1	9.0	254
T6*	Lime (Common)	On	16.0	1	-	430	7.0-6.0-6.0-6.5	2.0	2.5	-	EM	Good form.	Good	Good	40+	A1	5.2	84
T7*	Lime (Common)	On	14.0	1	-	1020	4.0-5.0-5.5-4.0	2.5	2.5	-	LM	Pollarded parkland tree which pre-dates the existing buildings, with old pruning wounds, and likely column of decay in trunk. <i>Kretzschmaria deusta</i> fungal fruiting bodies on prominent basal burrs to NW and N. Basal shoots. Audible decay and saprophytic fungal bodies on dysfunctional bark above <i>K. deusta</i> zone. Branch dieback and deadwood. Woodpecker activity on decayed areas of upper trunk. Carry out internal decay investigation and assess safety factor of tree.	Fair	Fair	20+	B1	12.2	471
T8	Cockspur thorn	On	4.5	1	-	200	1.5-2.5-3.0-2.5	1.5	2.0	-	M	Branches on northern half of crown previously lopped.	Good	Good	40+	B1	2.4	18
T9*	Lime (Common)	On	15.0	1	-	430	6.0-5.0-6.0-6.5	2.0	2.5	-	EM	Good form.	Good	Good	40+	A1	5.2	84
T10*	Lime (Common)	On	16.0	1	-	420	6.5-6.0-4.0-5.5	2.0	2.0	-	EM	Good form.	Good	Good	40+	A1	5.0	80
T11*	Lime (Common)	On	11.0	1	-	280	4.0-4.0-4.5-4.0	2.0	2.0	-	SM	Good form.	Good	Good	40+	B1	3.3	35
T12*	Lime (Common)	On	16.0	1	-	420	5.5-4.5-4.5-5.0	2.0	2.0	-	EM	Good form.	Good	Good	40+	A1	5.0	80
T13*	Lime (Common)	On	14.0	1	-	360	6.0-5.0-5.5-6.0	2.0	2.0	-	EM	Good form.	Good	Good	40+	A1	4.3	59
T14*	Willow (Crack)	On	8.0	1	Yes	400	7.5-0.5-0.5-10.5	2.5	1.0	NW	M	Lapsed low pollard; with one stem reaching out over road towards building to NW. Lower trunk is fractured and hollowed. Repollard tree.	Good	Poor	10+	C1	4.8	72
T15*	Sycamore	On	17.0	2	-	550	8.0-6.5-3.0-6.0	3.0	4.5	-	M	Two stems from ground with included bark union. Occluding wound on stem.	Good	Good	40+	B2	6.6	137
T16*	Willow (Crack)	On	22.0	1	-	690	11.5-5.0-1.5-13.5	8.0	7.0	NW	M	Lapsed low pollard; with one stem reaching out over road towards building to NW. lower trunk is hollowed; with various connected wounds.	Good	Fair	40+	B2	8.3	215
T17	Willow (Crack)	On	20.0	5	-	480	7.0-5.5-4.0-9.5	6.0	3.0	W	M	Low pollard regrowth. Eastern stem has fractured due to decay and hung-up in woodland growth.	Good	Fair	20+	B2	5.8	104
T18	Alder (Common)	On	18.0	2	-	600	7.0-4.0-3.0-6.0	4.0	3.5	NW	M	Twin-stemmed. Ivy of stems. Small third stem is dead. Off-site willow to south has heaved and hung-up in alder.	Good	Good	40+	B2	7.2	163

* tree location approximate

Ref	Species	On/off site	Height (m)	No. of stems	Est diam?	Calc. / actual stem dia. (mm)	Crown radii (m) N-E-S-W	Av. low crown height (m)	1st branch ht (m)	1st branch dir.	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)	RPA m ²
T19	Alder (Common)	On	15.0	2	-	600	4.5-2.0-1.5-5.5	2.5	3.5	NW	M	Twin-stemmed. Suppressed crown.	Fair	Good	20+	C1	7.2	163
T20	Alder (Common)	On	9.5	2	-	380	5.5-3.0-3.0-7.0	3.5	1.5	N	M	Tree has been historically pollarded; with light regrowth towards building. Third; southern stem is almost dead; so not measured. Poor form.	Fair	Poor	10+	C1	4.5	65
T21	Willow (Crack)	On	29.0	2	-	1240	13.0-11.0-10.5-9.0	14.0	14.0	-	M	Previously pollarded at 14-17m height. Repollard tree.	Good	Fair	20+	B1	14.9	696
T22	Dogwood	On	8.0	3	-	180	3.5-2.5-2.0-3.5	1.5	1.0	-	M	Mature shrub.	Good	Good	40+	B1	2.2	15
T23	Ash (Common)	On	11.0	2	-	190	4.5-2.5-1.5-2.5	2.0	0.5	NE	Y	Natural regeneration.	Good	Good	10+	C1	2.3	16
T24	Dogwood	On	5.0	4	-	150	5.0-3.0-1.0-3.0	1.5	0.5	-	M	Mature shrub.	Good	Good	40+	B1	1.8	10
T25*	Lime (Common)	On	13.0	1	-	320	5.0-5.5-4.0-5.0	2.5	2.0	NW	SM	Large surface root growing towards kerb to north; with bark wounds where vehicles have scuffed.	Good	Good	40+	B1	3.8	46
T26	Plane (London)	On	30.0	1	-	2300	15.5-17.0-15.0-18.0	6.0	6.0	N	M	Very large; spreading tree. Lowest branch at 10m height to north has historically fractured near union with stem and subsided to north; leaving hazard beam. Branch has been removed to 6m stub; with regrowth. Other 4 low branches historically pruned back from building facade.	Good	Good	40+	A1	15.0	707
T27	Plane (London)	On	12.0	2	-	480	7.0-5.5-6.5-6.0	4.0	2.0	S	SM	Planted tree with old plastic mesh guard still present. Tree has leaves to south; so leaders firmed from former branches. Northern stem is two fused stems.	Good	Good	40+	B2	5.8	104
T28	Plane (London)	On	17.0	1	-	460	9.0-7.5-8.0-7.0	3.0	3.0	N	EM	Good form and future potential.	Good	Good	40+	B1	5.5	96
T29*	Yew (Common)	On	12.0	1	-	530	4.5-5.5-8.5-7.0	1.0	1.5	SW	EM	No significant defects.	Good	Good	40+	B1	6.4	127
T30	Lime (Common)	On	8.0	1	Yes	300	3.0-3.0-4.0-3.0	2.0	0.0	-	Y	Young coppice regrowth from heavily decayed mature stump.	Good	Fair	20+	C1	3.6	41
T31	Lime (Common)	On	24.0	1	-	940	5.0-3.0-8.5-6.5	10.0	8.0	NE	LM	Tree has historically grown with lean to SW. Heavy ivy cover on trunk and branches. Two leaders historically pollarded at 20m height; with decay cavities visible below pruning points.	Good	Good	40+	B1	11.3	400
T32	Lime (Common)	On	15.0	4	-	420	5.5-5.0-6.5-4.0	3.0	2.0	-	SM	Coppice regrowth from decayed mature stump.	Good	Good	20+	B2	5.0	80
T33	Sycamore	On	12.0	1	-	280	4.5-4.5-2.5-1.0	3.0	3.0	-	SM	Ivy on stem.	Good	Good	40+	B2	3.3	35
T34	Lime (Common)	On	23.0	1	-	920	8.0-9.0-8.0-8.5	3.0	3.5	W	M	Decayed; historical wound on trunk from 0.5m to 3.5m; presumably rams-horned at edges. Otherwise a tree of good form and vitality. Previously high-pollarded. Carry out internal decay investigation and assess safety factor.	Good	Good	40+	B1	11.0	383
T35	Yew (Common)	On	11.5	4	-	930	8.0-9.0-8.5-6.0	2.0	2.0	NE	M	Historical wounding at base of northern stem. Ivy previously severed. Good form.	Good	Good	40+	A1	11.2	391
T36	Alder (Italian)	On	19.0	1	-	370	5.0-5.0-5.0-4.5	2.5	2.5	-	M	Growing in narrow kerbed bed.	Good	Good	40+	B1	4.4	62
T37	Alder (Italian)	On	19.0	1	-	470	5.0-4.5-5.0-4.5	3.0	3.0	-	M	Growing in narrow kerbed bed.	Good	Good	40+	B1	5.6	100

* tree location approximate

CLIENT: HITCHIN PRIORY DEVELOPMENT LTD

SURVEY DATE: 09/03/2026

Ref	Species	On/off site	Height (m)	No. of stems	Est diam?	Calc. / actual stem dia. (mm)	Crown radii (m) N-E-S-W	Av. low crown height (m)	1st branch ht (m)	1st branch dir.	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)	RPA m²
T38*	Hazel (Common)	On	6.0	1	Yes	250	2.0-4.0-4.0-4.0	2.0	0.0	-	EM	Good form.	Good	Good	40+	B1	3.0	28
T39*	Sycamore	On	9.5	1	Yes	220	2.5-2.5-2.5-2.5	4.0	4.5	-	SM	Possibly natural regeneration. Close to boundary wall.	Good	Good	20+	C1	2.6	22
T40*	Magnolia	On	6.0	1	Yes	190	3.0-3.5-2.5-1.5	0.5	0.5	-	EM	<i>Magnolia grandiflora</i> . Growing in raised; retained bed next to boundary wall.	Good	Good	40+	B1	2.3	16
T41	Maple (Norway)	On	14.0	3	Yes	340	5.0-4.0-5.0-5.0	4.0	2.5	S	SM	Three stems from near ground with included bark unions.	Good	Fair	20+	B1	4.1	52
T42*	Magnolia	On	3.5	1	Yes	140	1.5-2.0-3.5-2.0	0.5	0.5	-	EM	<i>Magnolia grandiflora</i> . Growing in raised; retained bed next to boundary wall.	Good	Good	40+	B1	1.7	9
T43*	Magnolia	On	6.0	1	Yes	170	3.5-3.5-3.5-3.5	0.5	0.5	-	EM	<i>Magnolia grandiflora</i> . Growing in raised; retained bed next to boundary wall.	Good	Good	40+	B1	2.0	13
T44*	Magnolia	On	4.5	1	Yes	150	1.5-3.5-3.0-2.0	0.5	0.5	-	EM	<i>Magnolia grandiflora</i> . Growing in raised; retained bed next to boundary wall.	Good	Good	40+	B1	1.8	10
T45*	Magnolia	On	5.0	1	Yes	150	2.5-2.5-2.5-2.5	1.0	0.5	-	EM	<i>Magnolia grandiflora</i> . Growing in raised; retained bed next to boundary wall.	Good	Good	40+	B1	1.8	10
T46	Sycamore	On	11.0	2	Yes	410	4.5-4.5-5.0-4.5	2.5	1.5	-	SM	Included bark primary stem union at 0.5m.	Good	Good	40+	B1	4.9	76
T47	Magnolia	On	6.0	1	Yes	200	4.0-3.5-4.0-2.5	1.0	0.5	-	EM	<i>Magnolia grandiflora</i> . Growing in raised; retained bed next to boundary wall.	Good	Good	40+	B1	2.4	18
T48	Maple (Norway)	On	9.5	1	-	280	4.5-3.0-3.5-4.0	2.0	1.5	-	SM	Good form.	Good	Good	40+	B1	3.3	35
T49	Lime (Common)	On	9.0	1	-	280	4.5-4.5-4.5-4.5	2.0	2.0	-	SM	Good form.	Good	Good	40+	B1	3.3	35
T50	Laburnam	On	5.0	1	-	220	3.0-3.0-2.5-2.5	2.0	1.5	-	EM	Growing on circular bench.	Good	Good	40+	B1	2.6	22

* tree location approximate

GROUPS OF TREES

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. Crown radius (m)	Avg. low crown height (m)	Life Stage	General Observations	Health & vitality	Structural condition	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G1*	Caucasian wingnut	On	18-20	3	-	1130	11.0	0.0	M	Three trees planted together; with dense area of root suckers around base maintained by trimming. Eastern tree leans out over river and towards bridge. Low branches over water. Stem measurement is for largest tree. Northernmost tree has stem diameter 710mm.	Good	Good	40	A2	13.6
G2	Cockspur thorn; dogwood; viburnum	On	3-5	8	Yes	180	2.0	0.5	EM	Area of shrubs; trimmed on outer sides.	Good	Good	40	B2	2.2
G3	Dawn redwood	On	18	3	-	590	3.5	3.0	M	Attenuated stems. Good form. Branches previously pruned back from road and building to 9m height.	Good	Good	40	A2	7.1
G4	Viburnum rhytidophyllum; common ash	On	4.5-8	14	Yes	150	3.0	0.0	EM	Planted shrubs; with young ash saplings growing through.	Good	Good	20	C1	1.8
G5	False acacia; Norway maple; elder	On	6-8	14	-	240	3.0	0.0	Y	Young false acacia coppice regrowth and root suckers from 6 felled stumps. Two young maples as natural regeneration. One mater elder at northern end has grown out low over parking spaces.	Good	Fair	20	C1	2.9
G6	Sycamore; Magnolia grandiflora	On	4-10	5	Yes	200	3.0	1.0	SM	Planted group within raised shrub bed; partially smothered with ivy. Sycamores may be natural regeneration and are of individual low quality.	Good	Good	40	B2	2.4
G7	Sycamore; Magnolia grandiflora	On	4-8	4	Yes	240	3.0	1.0	SM	Planted group within raised shrub bed; partially smothered with ivy. Sycamores may be natural regeneration and are of individual low quality.	Good	Good	40	B2	2.9

HEDGES

Ref	Species	On/off site	Av. height (m)	Av. width (m)	Av. stem diam (mm)	Av. low crown height (m)	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)
H1	Euonymus	On	1.0	1	50	0.0	EM	Trimmed hedge.	Good	Good	20+	C1	0.6
H2	Yew	On	3.0	1.5	100	0.0	SM	Clipped hedge.	Good	Good	40+	B2	1.3
H3	Yew	On	3.5	2	130	0.0	SM	Area of clipped yew hedge.	Good	Good	40+	B2	1.6
H4	Yew	On	2.0	2.5	100	0.0	SM	Area of clipped yew hedge.	Good	Good	40+	B2	1.3
H5	Yew	On	3.0	2	130	0.0	SM	Clipped hedge.	Good	Good	40+	B2	1.6
H6	Yew	On	5.0	5	150	0.0	EM	Previously maintained 2.5m hedge; now only clipped on ca4 park side. Smothered with ivy so that lower yew foliage barely visible. No low growth on western side.	Fair	Fair	20+	C2	1.8
H7	Yew	On	3.5	2	130	0.0	SM	Clipped hedge.	Good	Good	40+	B2	1.6

* tree location approximate

- The tree survey was carried out with reference to the methodology set out in BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.
- Trees were surveyed individually or as groups where it was considered that they had grown together to form cohesive arboricultural features either aerodynamically (trees that provide companion shelter), visually (e.g. avenues or screens) or culturally (including for biodiversity). However, where it was considered that there was an arboricultural need to differentiate between attributes trees within groups and/or woodlands were also surveyed as individuals.
- Within the tree survey schedule, each surveyed TREE (T), GROUP (G), HEDGEROW (H), WOODLAND (W) or SHRUB MASS on or adjacent to the site is given a reference number which refers to its position on the tree survey and constraints plan.
- TREE SPECIES are listed by common name.
- OOS: The recorded Out Of Scope trees and features refer to either a dead-standing or failed tree; a stump or minor shrubs; where trees are inaccessible or located off-site and unlikely to be affected by the development or, it is found that the trees are undersized according to BS 5837:2012, which stipulates a minimum recordable diameter of 75mm.

The **DIMENSIONS** taken are:

- STEM-No. indicates the number of main stems (i.e. whether the trunk divides at or below 1.5m; (used in the calculation of root protection area (RPA)) "m-s" = Multi-stemmed.
- STEM DIAMETER (measured in millimetres), obtained from the girth measured at approx. 1.5m. For trees with 2 to 5 sub-stems, a notional figure is derived from the sum of their cross-sectional areas. For multi-stemmed trees, the notional diameter may be estimated on the basis of the average stem size x the number of stems. Note: a notional diameter may be estimated where measurement is not possible.
- HEIGHT (measured in metres), recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.
- The CROWN SPREAD, taken at the four cardinal points to derive an accurate representation of the tree crown, recorded up to the nearest half metre for dimensions up to 10m and to up the nearest whole metre for dimensions over 10m.
- CROWN CLEARANCES, expressed both as the existing height above ground level of the first significant branch along with its direction of growth (e.g., 2.5m-N) and also in terms of the overall crown e.g., the average height of the crown above ground level. Measurements are recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.
- ESTIMATES: where any measurement has had to be estimated, e.g., due to inaccessibility, this is indicated by a "#" suffix to the measurement as shown in the Tree Survey Schedule.

LIFE STAGE is defined as follows:

- Y Young: Normally stake dependent, establishing trees. Should be growing fast, usually primarily increasing in height more than spread but as yet making a limited impact upon the landscape.
- SM Semi-mature: Established young trees, normally of good vigour and still increasing in height but beginning to spread laterally. Beginning to make an impact on the local landscape and environment. Semi-mature are still capable of being transplanted without preparation, up to 300mm girth and not yet sexually mature.

- EM Early-mature: Not yet having reached 75% of expected mature size. Established young trees, normally of good vigour and still increasing in height but beginning to spread laterally. Beginning to make an impact on the local landscape and environment.
- M Mature: Well-established trees, still growing with some vigour but tending to fill out and increase spread. Bark may be beginning to crack and fissure. In the middle half of their safe, useful life expectancies.
- LM Late-mature: In full maturity but possibly beyond mature and in a state of natural decline. Still retaining some vigour but any growth is slowing.
- A Ancient: A tree that has passed beyond maturity and is old/aged compared with other trees of the same species. Typically having a very wide trunk and a small canopy.

PHYSIOLOGICAL CONDITION (HEALTH & VITALITY):

Essentially a snapshot of the general health of the tree based upon its general appearance, its apparent vigour and the presence or absence of symptoms associated with poor health, physiological stress etc. (fungal infections may be recorded here but decay giving rise to structural weakness would be recorded under 'Structural Condition' – see next parameter):

- Good: No significant health issues.
- Fair: Indications of slight stress or minor disease (e.g., the presence of minor dieback/deadwood or epicormic shoot growth).
- Poor: Significant stress or disease noted; larger areas of dieback than above.
- Dead: (or Moribund).

STRUCTURAL CONDITION:

Features affecting the structural stability of the tree include decay, significant deadwood, root-plate instability or significant damage to structural roots, weak forks (e.g. those where bark is included between the members) etc. Classified as:

- Good: No obvious structural defects: basically sound.
- Fair: Minor, potential or incipient defects.
- Poor: Significant feature(s) likely to lead to actual failure in the medium- to long-term.
- Dead: (or Moribund).

ESTIMATED REMAINING CONTRIBUTION:

An estimate of the length of time in years that a tree might be expected to continue to make a useful contribution to the locality at an acceptable level of risk (based on an assumption of continued routine maintenance):

- Less than 10 years
- 10+ years
- 20+ years
- 40+ years

SPECIAL IMPORTANCE:

Trees that are particularly notable as high-value trees such as ancient trees/woodland or veteran trees. Such trees may be regarded as the principal arboricultural features of a site and pose a significant constraint to potential development.

An **ancient** tree is one that has passed beyond maturity and is very old compared with other trees of the same species. Very few trees reach the ancient life stage. **Veteran** trees are often very old but not necessarily so; they may be regarded as 'survivors' that have developed some of the characteristic features of an ancient tree but have not necessarily lived as long. All ancient trees are veterans but not all veteran trees are ancient.

The term '*notable*' carries no weight within the National Planning Policy Framework (NPPF), but is a term that recognises a mature tree which may stand out in the local environment because it is large in comparison with other trees around it.

Ancient woodland is an area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland (ASNW), plantations on ancient woodland sites (PAWS) and ancient replanted woodland (ARW).

QUALITY CATEGORY:

Trees are classed as category U, A, B or C, based on criteria given in BS 5837:2012; summary definitions as follows (see BS 5837 for further details). Categories A, B and C are further characterised by the use of sub-categories, which attempt to identify what aspect of the tree is the main source of its perceived value. These are:

- (1) arboricultural qualities
- (2) landscape qualities, and
- (3) cultural, historic or ecological/conservation qualities.

Examples of these qualities for each of the three categories are given below, although these are indicative only.

Note: This is NOT a health and safety classification; the classification does not take into account any requirement for remedial tree care or ongoing maintenance apart from that which may affect the trees' general suitability for retention.

CATEGORY A: HIGH QUALITY:

Trees or groups whose retention should be given a particularly high priority within the design process. Normally with an expected useful life expectancy of at least 40 years.

- A1: Notably fine specimens; rare or unusual specimens; essential component trees within groups, semi-formal or formal plantings (e.g., dominant trees within an avenue etc.).
- A2: Trees, groups or woodlands of particular visual importance as landscape features.
- A3: Trees, groups or woodlands of particular significance by virtue of their conservation, historical, commemorative or other value (e.g., veteran trees or wood pasture).

CATEGORY B: MODERATE QUALITY

Trees or groups of some importance with a likely useful life expectancy in excess of 20 years. Their retention would be desirable; selective removal of certain individuals may be acceptable but only after full consideration of all alternative courses of action.

- B1: Fair quality but not exceptional; good specimens showing some impairment (e.g., remediable defects, minor storm damage or poor past management).
- B2: Acceptable trees situated such as to have little visual impact within the wider locality. Also the number of trees, perhaps in groups or woodlands, whose value as landscape features is greater collectively than would warrant as individuals (such that the selective removal of an individual would not impact greatly upon the trees' overall, collective value).
- B3: Trees, groups or woodlands with clearly identifiable conservation or other cultural benefits.

CATEGORY C: LOW QUALITY:

Trees or groups of rather low quality, although potentially capable of retention for at least approx. 10 years. Also small trees with stems below 150mm diameter.

Potentially retainable, but not of sufficient value to be regarded as a significant planning constraint.

- C1: Unremarkable trees of very limited merit or significantly impaired condition.
- C2: Trees offering only low- or short-term landscape benefits; also secondary specimens within groups or woodlands whose loss would not significantly diminish their landscape value.
- C3: Trees with extremely limited conservation or other cultural benefits.

CATEGORY U: VERY LOW QUALITY

Trees likely to prove to be unsuitable for retention for longer than 10 years should any significant increase in site usage arise as a result of development. E.g., dead or moribund trees; those at risk of collapse or in terminal decline; trees that will be left unstable by other essential works such as the removal of nearby category U trees; trees infected by pathogens that could materially affect other trees; low-quality trees that are suppressing better specimens. (Category U trees may have conservation values that it might be desirable to preserve. This category may also include trees that should be removed irrespective of any development proposals.)

ROOT PROTECTION AREA (RPA):

These are normally represented as a circle centred on the base of each tree stem with a radius of 12 times the stem diameter, measured at 1.5m above ground level. The shape of the RPA may be altered where site conditions dictate that there are sound reasons to do so.

VETERAN OR ANCIENT TREE BUFFER (VTB/ATB)

In line with the Standing Advice produced by the Forestry Commission and Natural England, this is a buffer zone (in metres) around an ancient or veteran tree that should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5m from the edge of the tree's canopy if that area is larger than 15 times the tree's stem diameter.

ANCIENT WOODLAND BUFFER (FOR ASNW, PAWS OR ARW)

In line with the Standing Advice produced by the Forestry Commission and Natural England, this is a buffer zone of at least 15 metres to avoid root damage. Where assessment shows other impacts are likely to extend beyond this distance, a larger buffer zone may be required.

THE IMPORTANCE OF TREES

Wider benefits:

There is a growing body of evidence that trees bring a wide range of benefits to the places people live.

Some *Economic* benefits of trees include:

- Trees can increase property values
- As trees grow larger, the lift they give to property values grows proportionately
- They can improve the environmental performance of buildings by reducing heating and cooling costs, thereby cutting bills
- Mature landscapes with trees can be worth more as development sites
- Trees create a positive perception of a place for potential property buyers
- Urban trees improve the health of local populations, reducing healthcare costs

Some *Social* benefits of trees include:

- Trees help create a sense of place and local identity
- They benefit communities by increasing pride in the local area
- They can create focal points and landmarks
- They have a positive impact on people's physical and mental health
- They can have a positive impact on crime reduction

Some *Environmental* benefits of trees include:

- Urban trees reduce the 'urban heat island effect' of localised temperature extremes
- They provide shade, making streets and buildings cooler in summer
- They help remove dust and particulates from the air
- They help to reduce traffic noise by absorbing and deflecting sound
- They help to reduce wind speeds
- By providing food and shelter for wildlife they help increase biodiversity
- They can reduce the effects of flash flooding by slowing the rate at which rainfall reaches the ground
- They can help remediate contaminated soil

On new development sites:

Trees bring many benefits to new development. Where retained successfully they can form important and sustainable elements of green infrastructure, contribute to urban cooling and reduce energy demands in buildings. Their importance is acknowledged in relation to adaptation to the effects of climate change. Other benefits brought by trees include:

- increasing property values;
- visual amenity
- softening, complementing and adding maturity to built form
- displaying seasonal change
- increasing wildlife opportunities in built-up areas
- contributing to screening and shade
- reducing wind speed and turbulence

NATIONAL PLANNING POLICY

The National Planning Policy Framework 2024 (NPPF) (amended 2025) paragraph 193 states that, when determining planning applications, local planning authorities should apply the following principle:

c) 'development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused unless there are wholly exceptional reasons and a suitable compensation strategy exists.'

In this respect, the following definitions apply:

'Ancient woodland: An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on ancient woodland sites (PAWS)', and

'Ancient or veteran tree: A tree which, because of its age, size and condition, is of exceptional biodiversity, cultural or heritage value. All ancient trees are veteran trees. Not all veteran trees are old enough to be ancient, but are old relative to other trees of the same species. Very few trees of any species reach the ancient life stage.'

Note: Further information from the National Planning Policy Guidance Suite and Standing Advice is provided in the design guidance section.

Other paragraphs of the NPPF 2024 of relevance to this report are:

Paragraph 136: *'Trees make an important contribution to the character and quality of urban environments, and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and*

community orchards), that appropriate measures are in place to secure the long-term maintenance of newly planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users.'

Paragraph 187: 'Planning policies and decisions should contribute to and enhance the natural and local environment by:

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland.'

STATUTORY CONTROLS

Statutory tree protection

Works to trees which are covered by Tree Preservation Orders (TPOs) or are within a Conservation Area (CA) require permission or consent from the Local Planning Authority. Where information is available on any Statutory designations such as this they are identified within the summary table in Section 1 and on the Tree Survey and Constraints Plan at Section 2.

Notwithstanding specific exceptions and in general terms, a TPO prevents the cutting down, uprooting, topping, lopping, wilful damage or wilful destruction of protected trees or woodlands without the prior written consent of the LPA.

Penalties for contravention of a TPO tend to reflect the extent of damage caused but can, in the event of a tree being destroyed, result in a fine of up to £20,000 if convicted in a Magistrates' Court, or an unlimited fine if the matter is determined by the Crown Court.

Similarly, and again notwithstanding specific exceptions, it is an offence to carry out any works to a tree in a Conservation Area with a trunk diameter greater than 75mm diameter at 1.5 height without having first provided the LPA with 6 weeks written notification of intent to carry out the works.

On many non-residential sites (excluding specific exemptions) there is also a statutory restriction relating to tree felling that relates to quantities of timber that can be removed within set time periods. In basic terms, it is an offence to remove more than 5 cubic metres of timber in any one calendar quarter without having first obtained a felling licence from the Forestry Commission.

Any proposed tree works that are planned to be carried out on site must be carried out in accordance with the statutory controls outlined. Therefore, we recommend that a further check is made with the LPA before any tree works are carried out.

Statutory Wildlife Protection

Although preliminary visual checks from ground level of likely wildlife habitats are made at the time of surveying, detailed ecological assessments of wildlife habitats are not made by the arboriculturist and fall outside of the scope for this report.

Trees which contain holes, splits, cracks and cavities could potentially provide a habitat for protected species such as bats in addition to birds and small mammals. It is advised that in some instances specialist ecological advice may be required. This may result in tree works being carried out following a detailed climbing inspection to the tree to ensure that protected species or their nests/roosts are not disturbed. If any are found, the site manager, site owner or consulting arboriculturist should be informed and appropriate action taken as recommended by the appointed Ecologist or Natural England.

It is advised that tree/hedgerow works are carried out with the understanding that birds will generally nest in trees, hedges and shrubs between March and August. This time period only provides an indication of likely nesting times and as such diligence is required when undertaking tree works at all times.

Irrespective of the time of year and other than any actions approved under General Licence, it is an offence to intentionally kill, injure or take any wild bird or to intentionally take, damage or destroy the nest or eggs of any wild bird. Ideally, tree operations should be avoided during the likely bird nesting period. However, any tree works should always only be carried out following a preliminary visual check of the vegetation.

For information, the Wildlife and Countryside Act 1981 (as amended), The Countryside and Rights of Way Act 2000 (as amended) and the Conservation of Habitat and Species Regulations 2010, form the basis of the statutory legislation for flora and fauna in England and Wales. A different legislative framework applies in Scotland and Northern Ireland.

Any proposed tree works that are planned to be carried out on site must be carried out in accordance with any relevant statutory controls, outlined above.

DESIGN GUIDANCE

Approach

The approach adopts the guidelines set out in the British Standard BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations. The process is broken down to coordinate with the key elements within both the RIBA Plan of Work (2013) and British Standard 5837:2012 as set out in the table below:

Information Stage	RIBA Stage	BS5837:2012
Stage A – Tree Survey	2: Concept	4: Feasibility
Stage B – Arboricultural Impact Assessment	3: Developed design	5: Proposals
Stage C – Arboricultural Method Statement	4: Technical design	6: Technical Design
Stage D – Arboricultural Site Supervision	5: Construction	7: Demolition and construction

A hierarchical approach is adopted in order to achieve optimum use of the site and location of built structures. This is set out below:

Avoid

The starting point of Site layout design should be to avoid the RPA of retained trees and provide suitable clearance from above ground constraints [tree canopies]. Where possible building lines should be at least 2m outside the RPA to provide working space for construction. However, protection measures can be taken if such clearance is not achievable.

Mitigate

Where intrusion within the RPA is unavoidable then its impact on the tree can be mitigated by specialist measures:

Foundations that avoid trenching e.g. screw piles, suspended floor slabs or casting at ground level for lightweight structures such as bin and cycle stores.

Limited use may be made for parking, drives or hard surfaces within the root protection areas, subject to advice from a qualified arboriculturist. Cellular confinement systems that enable hard surfaces to be built above existing soil levels are acceptable methods subject to site-specific soil conditions.

Service runs that cannot be routed outside the RPA(s) can be installed by, for example, thrust boring, directional drilling, air excavation or hand digging. These operations often require supervision by the project arboriculturist.

Compensate

Replacement planting can ensure the continuity of tree cover where tree removal is unavoidable or desirable. Off-site provision may be considered in some circumstances but this will require negotiation with the local planning authority.

Considerations:

For proposed residential developments, consideration must be given to numerous factors future tree growth and orientation.

Tree constraints

Root Protection Areas:

With reference to BS5837:2012, a root protection area (RPA) is defined as “a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree’s viability, and where the protection of the roots and soil structure should be treated as a priority”. **“The default position [when considering design layout in relation to RPAs] should be that structures are located outside the RPAs of trees to be retained”.**

BS5837:2012 states (4.6.2) that, “where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area should be produced.” The BS goes on to state that, “modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution,” and that any deviation from the original circular plot should take into account:

- Morphology and disposition of roots;
- topography and drainage;
- soil type and structure;
- the likely tolerance of the tree to root damage/disturbance.

Additional buffer zones beyond the RPA:

The following text is taken from the Standing Advice produced by the Forestry Commission and Natural England as included in the National Planning Policy Guidance:

‘A buffer zone’s purpose is to protect ancient woodland and individual ancient or veteran trees. The size and type of buffer zone should vary depending on the scale, type and impact of the development’.

Ancient woodland buffer:

‘For ancient woodlands, you should have a buffer zone of at least 15 metres to avoid root damage. Where assessment shows other impacts are likely to extend beyond this distance, you’re likely to need a larger buffer zone. For example, the effect of air pollution from development that results in a significant increase in traffic’.

Ancient and veteran tree buffer:

'A buffer zone around an ancient or veteran tree should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5m from the edge of the tree's canopy if that area is larger than 15 times the tree's diameter'.

Above ground:

Above ground constraints posed by trees describe the capacity for trees to have an overbearing or dominating effect on new developments; usually post-occupancy. Typical above ground constraints include a number or combination of inconveniences including shading, branch spread, movement of trees during strong winds and so on. If not adequately considered, above ground constraints can lead to repeated requests to fell or heavily prune retained and protected trees.

Shade:

Adverse shading and blocked views from windows raise concerns for incoming residents, which may lead to pressure to fell or remove trees in the future. Wherever possible, it is advisable to arrange fenestration away from tree canopies to lessen the conflict or increase window size to accommodate ambient light.

Conversely, appropriately designed development can use existing or new trees to create necessary and welcome shade and screening.

As part of the adopted approach, the above considerations and constraints are assessed cumulatively to provide clear and site-specific advice on the areas of a site most suitable for the location of development.

Dependent on the site and nature of the proposed development, the Tree Survey and Constraints Plans may show the following:

Recommended Developable area - an advisory area defined to minimise arboricultural impacts using standard approaches to construction. Restricting proposed development to this area will limit the risk of harm to retained trees and of the Local Planning Authority objecting to the proposed development. It may be possible to propose development outside of this area, but specific 'low impact' construction techniques may need to be recommended.

Recommended Buffer to development - similar to the Recommend Developable Area but defined as a line marking a suitable buffer to retained trees. More commonly used on large sites or sites where the presence of trees is localised.

Tree Opportunities

Depending on the scale of developments existing trees can often provide opportunities to enhance the existing arboricultural resource of a site by bringing it into good management or by putting in place remedial measures e.g. soil amelioration.

Appropriately designed new tree planting is extremely important in maintaining healthy and sustainable tree populations. For the reasons highlighted, new trees can bring many benefits to new developments. It is critical to the establishment of new tree planting that the locations, species and specification of new trees is appropriate. Subsequently the sourcing of high-quality stock, suitable planting and the provision of post planting maintenance are essential to allow new trees to establish and to allow them to mature.

HOW TREE DAMAGE CAN OCCUR

Above the ground

Damage can occur as a result of knocks and scuffs, breakages of branches and/or tree trunks. This is often but not always associated with machine operations, groundworks excavations, tele handlers, high sided vehicles and crane use. Other forms of above ground damage include fixings to trunk and unauthorised cutting back of branches. Wounds will harm a tree's health and shorten its life by letting in disease-causing organisms.

Below the ground

It is often not appreciated that the majority of most tree roots are generally located within the top 600mm of the ground. On this basis it needs to be understood that damage to roots can occur in three ways:

- Root severance can occur as a result of, for example, soil stripping during site clearance or excavations.
- Root dieback and death can result from compaction of the soil. Compaction can occur as a result of vehicle weight, weight of stored materials or increased pedestrian access. Compaction crushes out soil pore space and prevents tree respiration from occurring (respiration requires gas exchange between the ground and the atmosphere). Compacted soil is denser and therefore inhibits/prevents any further new root growth.
- Pollution of the soil with chemicals such as oil or cement washings can destroy the soil environment, making it inhospitable for the tree cause causing it stress.

The effects of these impacts can be disfiguring to a tree's appearance and also weaken a tree making it more liable to attack by pest and diseases. In addition, root damage or death results in corresponding decline above the ground with dieback occurring within the tree crown.

The effects of damage to trees generally take some time to become fully apparent. In many cases, damaged trees decline slowly after the completion of a new development, until they eventually need to be removed due to ill health.

Tree protection barriers and load distributing 'no-dig' paths are specified in order to prevent soil compaction from taking place.

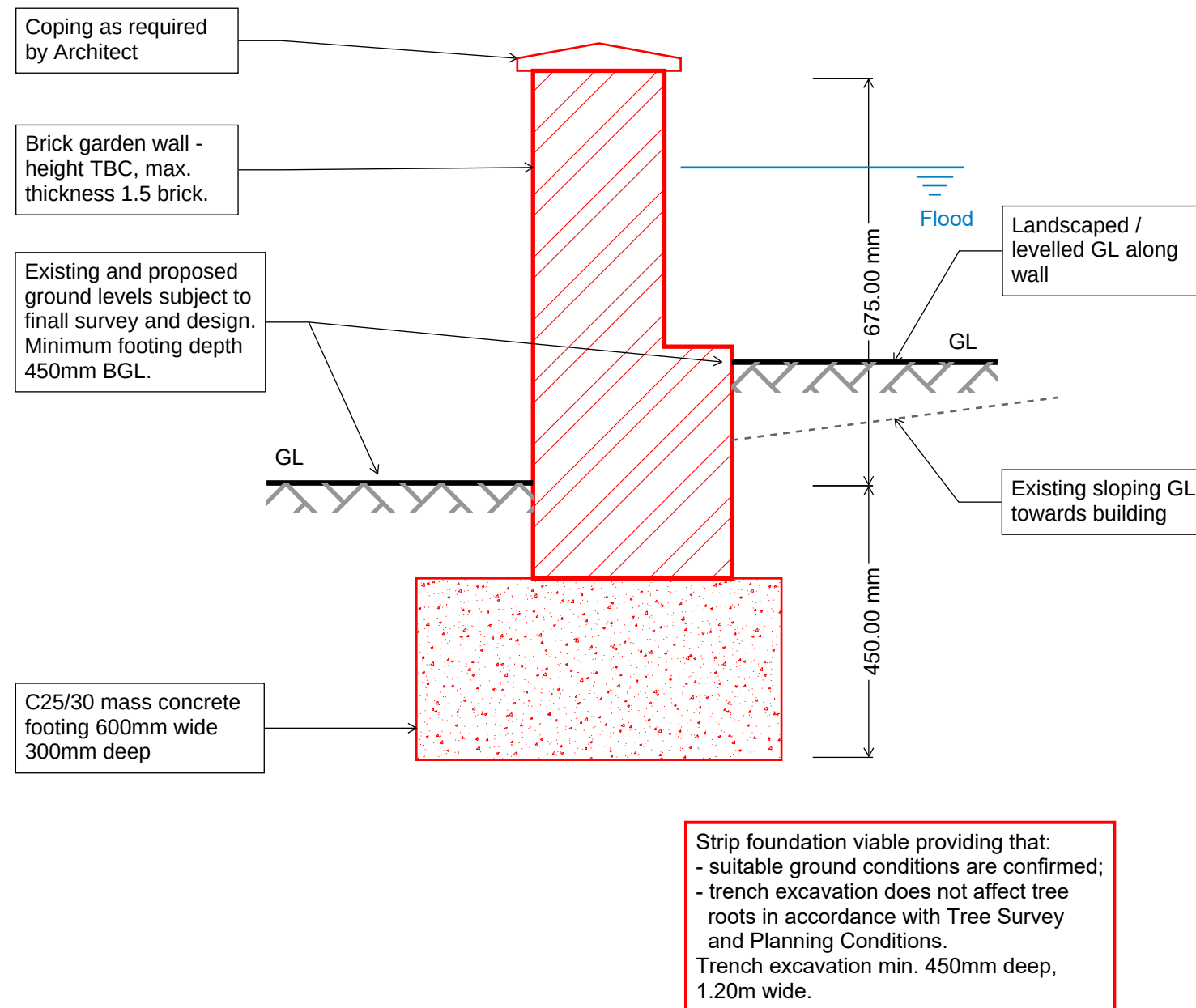
GENERAL SITE RULES FOR TREE PROTECTION

Do not independently carry out any activity that is at odds with the site scheme of tree protection. This is contained within an approved Arboricultural Method Statement (AMS) and accompanying Tree Protection Plan.

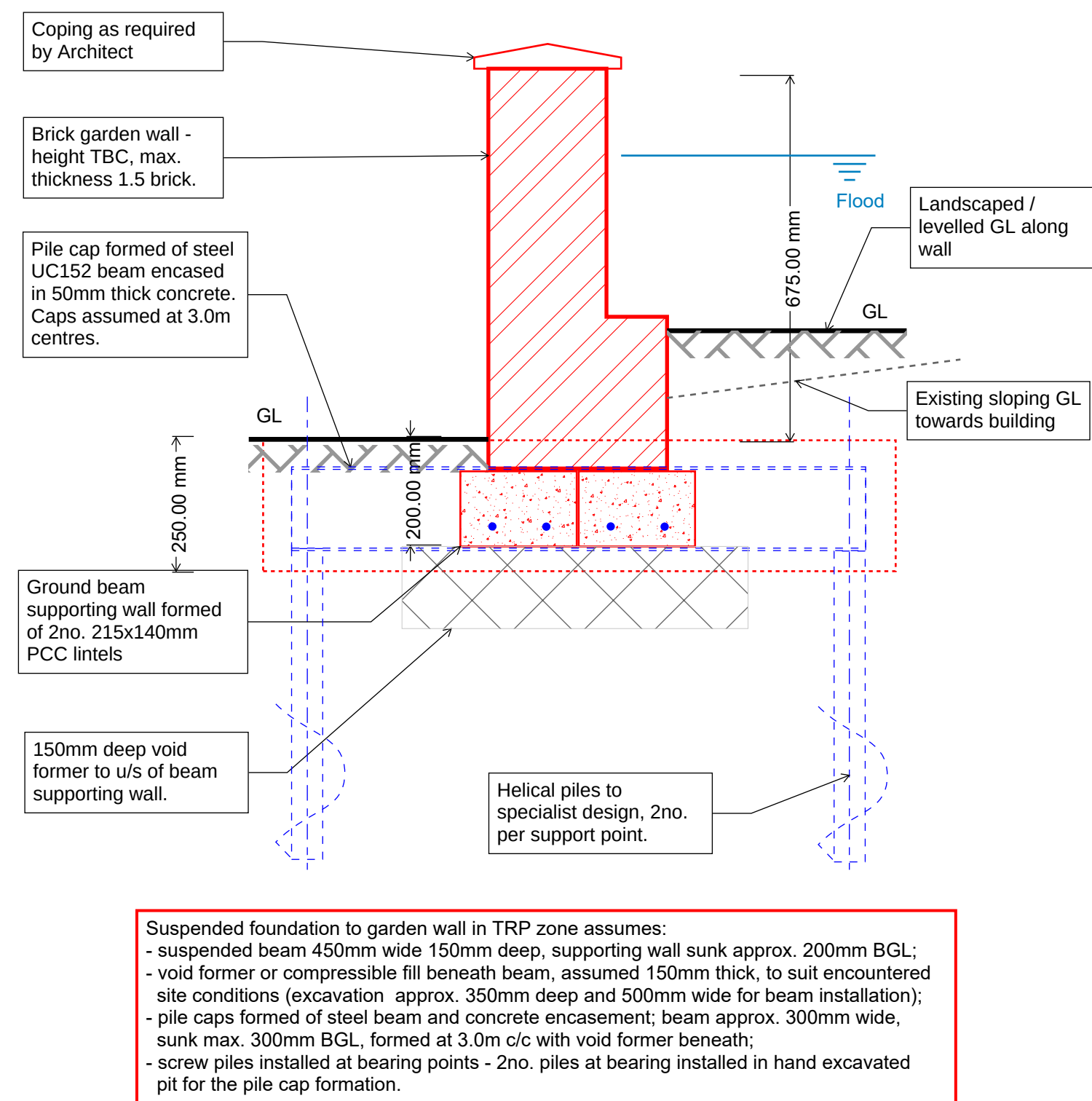
In simple terms: do not carry out any work within any Construction Exclusion Zone (CEZ) without prior liaison with the Project Arboriculturist and written authorisation from the Local Planning Authority.

Within the CEZ:

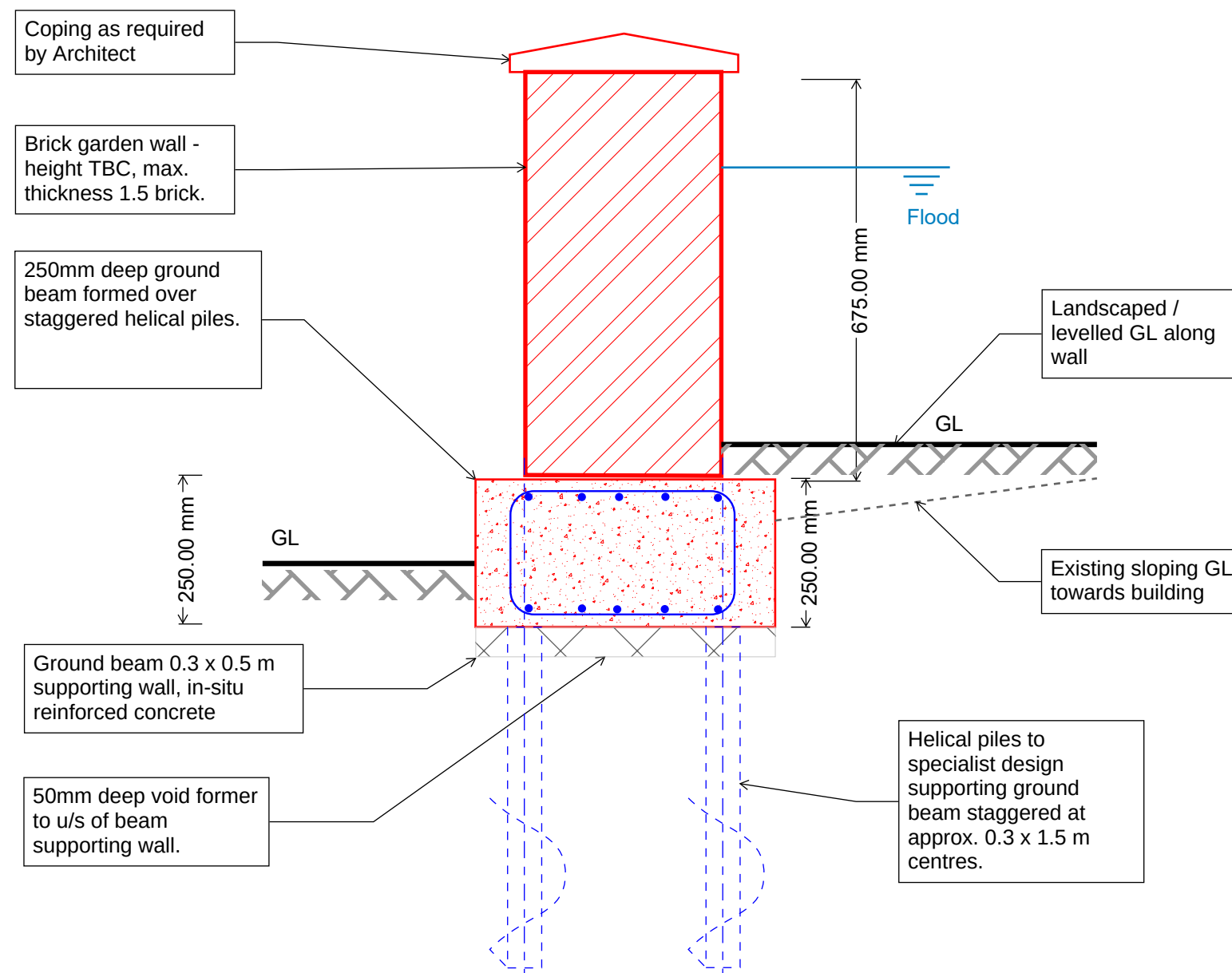
- No mixing of cement
- No soil/turf stripping, raising/lowering of ground levels (unless advised), deposit or excavation of soil or rubble
- No excavations for services or installation of services
- No storage of materials, machinery fuel, chemicals or other materials of any other description
- No parking/use of tracked or wheeled machinery
- No siting of temporary structures including hard standing areas, portaloos, site huts
- No lighting of fires or disposal of liquids
- Fires on site should be avoided if possible. Where they are unavoidable, they must not be lit in a position where heat could damage foliage or branches. Fires must be a minimum of 20m from the trunk of any retained tree or the centre line of any hedgerow to be retained
- No signs, cables, fixtures or fittings of any other description shall be attached to any part of a retained tree.



Garden wall / Flood defence wall construction detail - Option 1



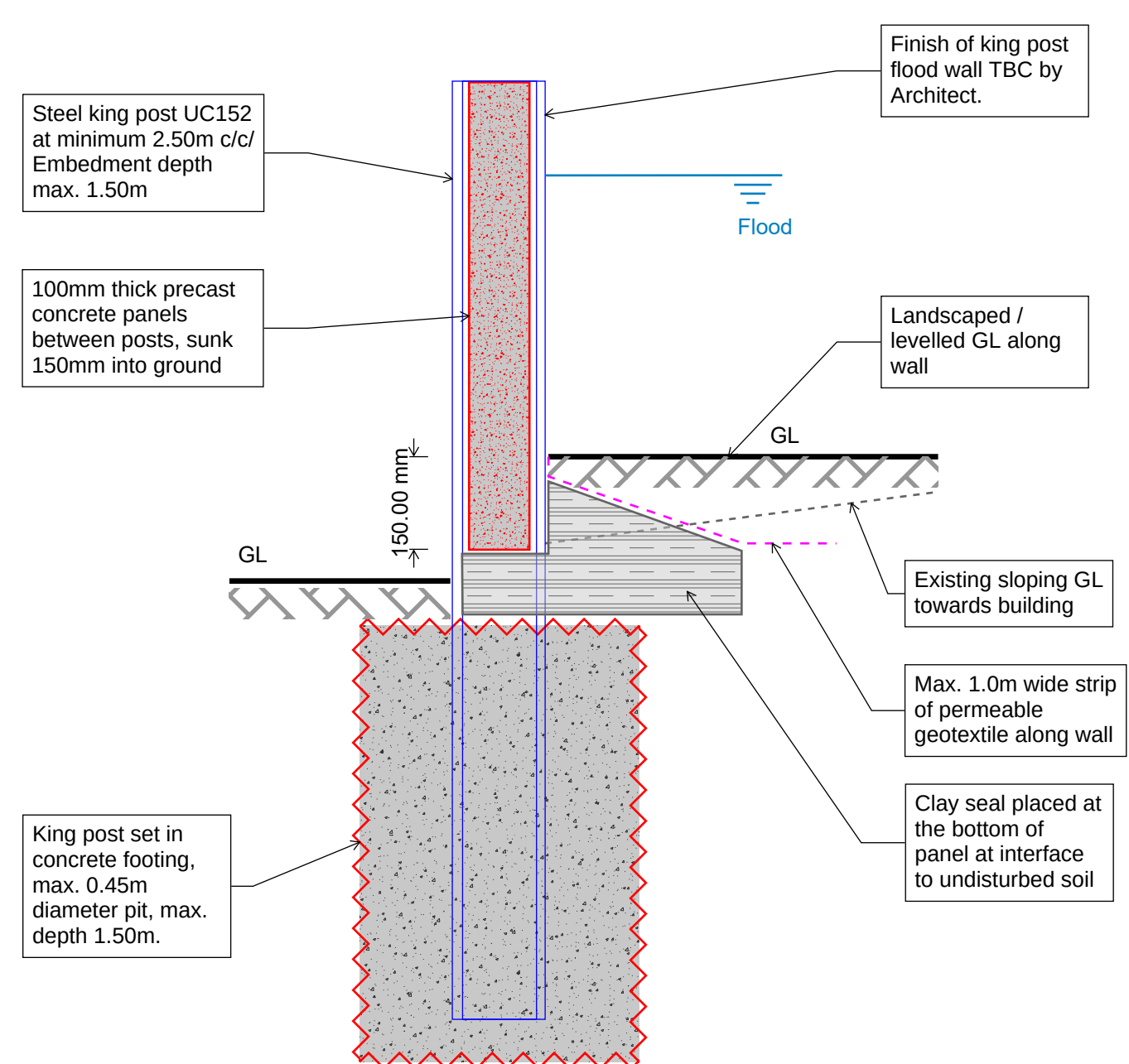
Garden wall / Flood defence wall construction detail - Option 2



Suspended foundation to garden wall in TRP zone assumes:

- suspended beam 500mm wide 250mm deep, supporting wall sunk 100mm BGL;
- void former or compressible fill beneath beam, assumed 50mm thick, to suit encountered site conditions (excavation approx. 350mm deep and 700mm wide for beam installation);
- no pile caps, beam formed continuous over the staggered piles;
- screw piles installed staggered along the beam at approx. 0.30m x 1.50m centres, installed in hand excavated shallow trench.

Garden wall / Flood defence wall construction detail - Option 3



King post garden / flood wall in TRP zone assumes:

- steel posts UC152 at 2.50m, 4.75m or 6.0m c/c, to be confirmed; posts embedded maximum 1.50m deep in ground, in maximum 0.45m diameter pits;
- prestressed, precast concrete wall panels installed between posts, max. 1.0m high, sunk max. 150mm deep into the ground;
- clay material seal formed at the base of the retaining wall, at the interface with existing ground; clay seal covered with strip of geotextile;
- king post wall finishes to Architects specification.

Garden wall / Flood defence wall construction detail - Option 4